The OIL WEEKLY

15¢

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

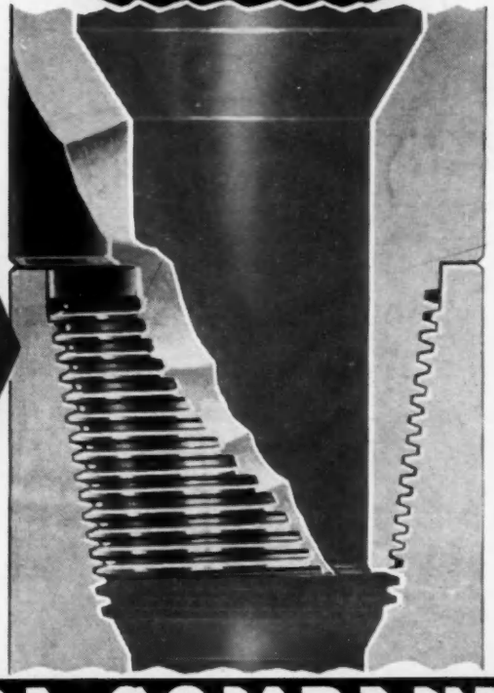
THE WEEK'S NEWS INTERPRETED

DECEMBER 10, 1934
Volume 75 Number 13

ONLY HUGHES

Full Hole TOOL JOINTS

Have the FAMOUS NON-GALLING ACME THREAD



Hughes Full Hole Tool Joints also available with A. P. I. Threads

SOLD BY SUPPLY STORES—EVERYWHERE

HUGHES TOOL COMPANY

SERVICE PLANTS: LOS ANGELES, CALIF. OKLAHOMA CITY, OKLA.

MAIN PLANT AND OFFICE: HOUSTON.

EXPORT OFFICE: 30 ROCKEFELLER PLAZA

TRETOLITE
ADVISORY SERVICE
FOR TREATING CRUDE OIL TO PIPE LINE REQUIREMENTS

The help of this thorough service is yours for the asking. There is a Tretolite Engineer in your locality and he'll be pleased to assist and advise with you in order to assure maximum results. This service has become an important factor in the petroleum industry.

TRETOLITE COMPANY
MANUFACTURING CHEMISTS

Representatives in all principal fields

DALLAS **ST. LOUIS, MO.** **LOS ANGELES**

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

THE OIL WEEKLY

ENGINEERING « STATISTICS » THE WEEK'S NEWS

EDITORIAL STAFF

WARREN L. BAKER
Editor

J. KENT RIDLEY
Managing Editor

ASSOCIATE EDITORS

JACK LOGAN — BRAD MILLS
WM. V. GROSS

DISTRICT EDITORS

B. F. LINZ.....Washington
FLOYD SWINDELL.....Tulsa
H. H. KING.....Fort Worth
W. E. GREEN.....Los Angeles
EARL S. POST.....San Antonio
R. W. BYRAM.....Austin
CHAS. LEYENDECKER.....Houston

PUBLISHED BY
GULF PUBLISHING COMPANY
HOUSTON, TEXAS

R. L. DUDLEY, *President*
A. L. BURNS, *General Manager*
S. W. ROBINSON, *Editorial Director*

ADVERTISING STAFF

DICK SWINSKY.....New York
W. W. PIGUE.....Pittsburgh
T. W. NELSON.....Chicago
J. F. CARTER, JR.....Tulsa
W. E. GREEN.....Los Angeles
CHAS. WYATT.....Houston
WM. ATCHESON.....Houston

W. J. HUDSPETH
Circulation Manager

Contents « December 10, 1934

Volume 75 ◆ Number 13

THE CHANGING PANORAMA..... 5

NEWS OF THE WEEK:

Prospects Unusually Favorable 7
Tenders Required on All Texas Products..... 9
Hot Oil Runs in East Texas Up..... 9
Tank Car Shipments Down..... 10
NIRA Defended in Amazon Case..... 10
Interstate Compact Seems Remote..... 12
Louisiana Coast Deep Drilling Easy..... 16
Independents Favor Limited Federal Control..... 40
Production . .....41 Crude Prices 45

PRODUCTION ENGINEERING:

Repressuring in Bourbon County, Kansas..... 21
Manifold Control in Gas Lift System..... 24
Mechanical Down Time Analysis..... 30

PIPE LINE ENGINEERING:

Comparisons of Chart Interpretations..... 35

FOREIGN DEVELOPMENTS:

Austria Enters Oil Producing Ranks..... 37

MARKETS AND STATISTICS:

Production Rises as Allowable Lowered..... 43
Markets Strength Continues 41
November Improves Statistical Position..... 14

FIELD REPORTS:

Oklahoma . .....50 Louisiana 62
California . .....68 Michigan 70
Kansas . .....52 Mountain 66
Texas . .....53 Wildcats 72

NEW EQUIPMENT 79
News of the Equipment Makers..... 77

SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....141 W. Jackson Blvd.
LOS ANGELES.....Haas Building
TULSA.....Hunt Bldg.
FORT WORTH.....W. T. Waggoner Bldg.
WASHINGTON.....Albee Bldg.

Member Audit Bureau of Circulations.

Published every Monday. Single Copies 15 cents. Subscription price: domestic and foreign, $1.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.
Advertising rates on application.

REED

ROLLER BEARING ROCK BITS

SPEED

WITH LIGHT DRILLING WEIGHTS

REED ROLLER BIT CO.

MAIN PLANT: HOUSTON, TEXAS, U. S. A. P. O. BOX 2119

Export Office: NEW YORK, N. Y., 150 Broadway
London Representative's Office: LONDON, E.C. 2, COVENTRY HOUSE, South Place

Branches at
LOS ANGELES, CALIF., 1317 Esperanza St.
KILGORE, TEXAS
LAKE CHARLES, LA.
OKLAHOMA CITY, OKLA., 1129 Southeast 29th St.

Distributed Through Supply Stores Everywhere
Mid-Continent and Gulf Coast Distributors for MARTIN-DECKER PRODUCTS

DEC 11 1934

VOLUME 75, No. 13

©C1B 249153

DECEMBER 10, 1934

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

DURING November, although the United States crude oil production allowable was raised 15,000 barrels daily, crude production was below demand as indicated by crude stocks declining 5,000,000 barrels. This does not reflect the full extent to which demand exceeded production, for gasoline stocks were lowered 1,000,000 barrels. Gasoline stocks during seven and one half months declined 17,000,000 barrels, thereby placing stocks at such low levels the middle of November that it became necessary to increase them so as to carry on normal business. Statistics on the petroleum industry for November are interesting and encouraging. They appear on page 14.

Looking Ahead

THERE is a most optimistic undertone within the industry, and the above statistical information shows clearly that there is a real basis for believing that 1935 will be a year of great improvement. The fact that the oil industry is in a decidedly stronger position than it has occupied in a long time, and is showing greater improvement each month, has been hidden to a great extent by the clouds rising from controversies over proper methods of control. If present trends continue, and no change except toward stricter enforcement of present regulations is indicated, it appears that conditions within the industry will so change the picture that control of the petroleum business may not long be desirable, wanted or necessary.

A FACTOR contributing considerable to improvement in the statistical position of the industry during November was the federal government's shipping control program in the East Texas field. Hot oil production in that field during October was estimated to have averaged 100,000 barrels per day, whereas estimates during November show such production to have declined to nearly 25,000 barrels daily. This decrease of 75,000 barrels daily in hot oil movement accounts for approximately half of the crude stock withdrawals made during the month. The tender board has had little assistance, if any, during the month from other enforcement agencies. However, it soon will be aided by the Texas Railroad Commission, which has drafted a similar order for application to intrastate shipments. During January, if both the federal tender board and the state tender board are working (a court attack on the federal board will be on trial in Tyler, December 17, and it is anticipated that court action will be sought against the state board) the industry should

The Oil Man's Calendar

DECEMBER
19 *California Oil & Gas Association, Annual Banquet and Christmas jinks, Biltmore Hotel, Los Angeles.*

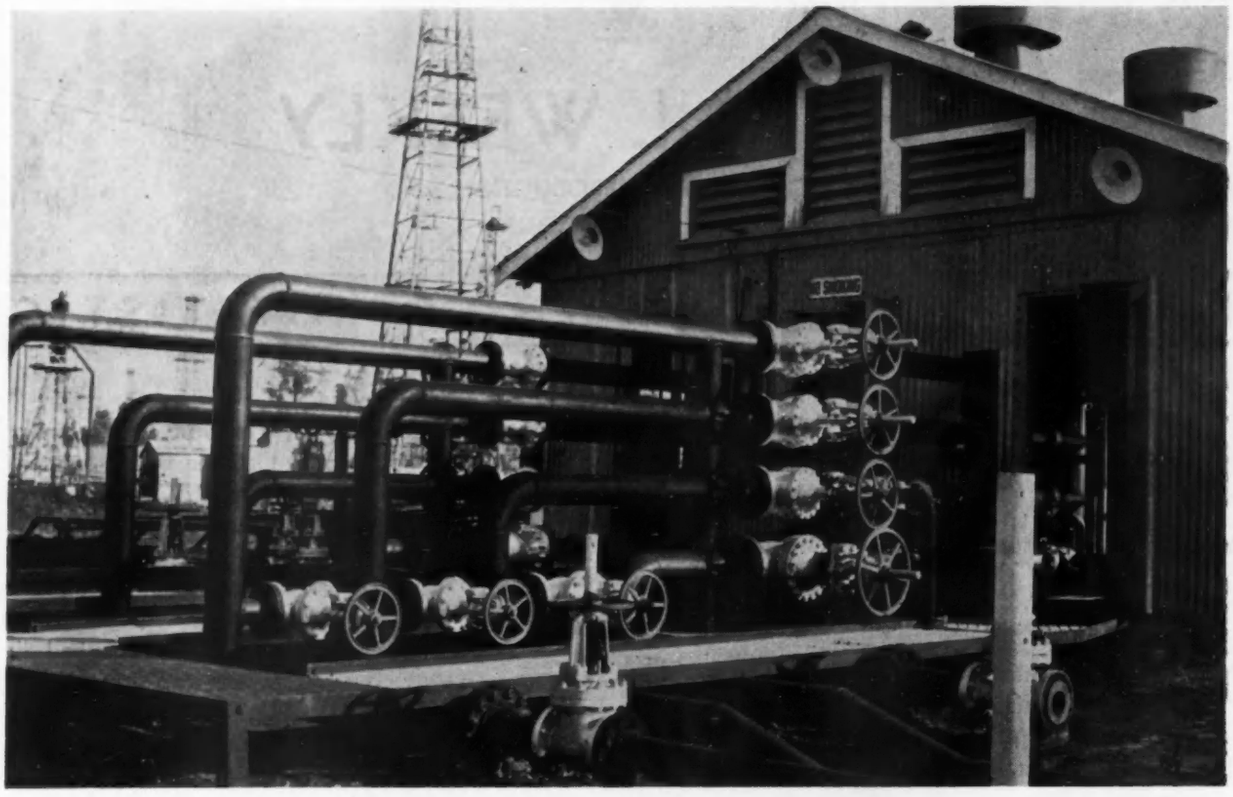
FEBRUARY
18-21 *Petroleum Division A. I. M. E. (A. I. M. E. Annual), New York.*

MARCH
21-23 *American Association of Petroleum Geologists, Wichita, Kansas.*

APRIL
8-13 *Oil Equipment and Engineering Exposition, Houston, Texas.*
11-13 *Petroleum Industry Electrical Association, Dallas, Texas.*
22 *American Chemical Society, New York.*

MAY
Natural Gasoline Association, Tulsa.

JUNE
20-21 *Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.*



When wells in the Santa Fe Springs, California, pool commenced to cease flowing naturally, Union Oil Company engineers designed a gas-lifting system that is different in several ways from usual installations. Wells in the field were making gas in various amounts and pressures, and a wide range of volumes were required to flow wells. Desiring to use all available gas and as efficiently as possible, the engineers constructed a gas-lift system having four distribution lines converging into one central control room, the header of which is shown in the accompanying picture. The complete story of how Union Oil Company is controlling its gas-lift operations in the field is on page 24.

see a month of greater improvement than witnessed in many years.

CONTINUATION of the tender control boards in East Texas would relieve the need for more control from government, both federal and state, and, whenever desirable to build up the nation's crude oil reserves again, would leave the oil industry and government free to return to true conservation measures, which are the application of efficiently engineered producing methods so as to prevent actual waste. Such a situation is not so far off. As often pointed out in these columns there has been no outstanding important field discovered since the end of 1932 and meanwhile the industry has been using its built up reserves to supply demand. Even the heretofore apparently unexhaustible East Texas has been heavily drawn on, something like 600,000,000 barrels, and is showing signs of wear. Included in its list of new completions is an increasing number of wells that refuse to flow, and initial production of flowing wells now seldom exceeds 15,000 barrels. If it becomes necessary to permit a larger allowable in East Texas to supply demand, and this may come about before long if stocks continue to be drawn on so heavily, the reservoir energy in the field will go off much faster; thereby putting the area more and more dependent on mechanical means of raising the oil to the ground surface. While it would still be able to produce an unusually large amount of oil under these conditions, it no longer would be the huge potential producing district that constantly has threatened to "wash" the industry away.

Producing Experiment

NORTHEAST Kansas is the scene of an interesting repressuring experiment. It was decided to adopt a pressure maintenance program for the Bourbon County pool, where wells are completed at 650 feet, but input pressures were higher than anticipated and the equipment installed was not able to take care of the project, consequently the plan has been temporarily suspended. However, suspension of the work resulted in the adoption of an unusual method for producing oil. The repressuring agent is injected into the sand until a good pressure is built up, when it is released suddenly. This flushing process has proved a successful method for producing these wells, and the company plans to make additional experiments along this line. These may result in some interesting and valuable data Page 21.

Prospects Unusually Favorable

Industry is in excellent statistical position. Rigid control at wells and refineries has brought stability and market firmness, while strong demand for oils prevails. But outlook could be quickly changed through weakening of present control programs.

JACK LOGAN
Associate Editor

OBVIOUSLY, breakdown of shipping control in East Texas could quickly give the oil situation an entirely different complexion. For such control is the dike that holds back an ocean of oil.

But with East Texas control still continuing remarkably successful, and promising to become even more effective, the current outlook for the oil industry is exceptionally favorable. Prospects are perhaps the best, in fact, since the boom days prior to the depression.

Statistics Improved in November

The industry further improved its already excellent statistical position during November. Wells and refineries were so rigidly controlled as to force withdrawal of about 5,000,000 barrels of crude and 1,000,000 barrels of gasoline from storage. Gasoline stocks went so low as to pinch some companies in the fulfillment of their marketing requirements. November and December prices on gasoline at refineries have been the best of the year, with exception of the slightly higher quotations that prevailed a few weeks in May and June. The recent threat of crude price reductions has been dissipated. General restoration of satisfactory retail prices is in prospect. Domestic consumption of gasoline is running about six percent higher for 1934 than for 1933, and there is greater demand also for most other products.

Prosperous 1935 Expected

OFFICIALS of some major companies are reported so enthusiastic over the outlook for 1935 as to hope that the year will bring virtual elimination of the need for rigid proration of flush fields; that proration can be boiled down largely to true conservation efforts, involving primarily the efficient operation of wells, rather than bolstering of prices.

Substantial gains in export business in 1935 are also being anticipated, along with an improved domestic picture. For 1934, foreign consumption was generally under-estimated even more than domestic demand. For 1935 the prophets apparently will be more optimistic.

Favorable Influences at Work

Various favorable influences continued last week to promote stabilization in the industry and firmness of the markets. But at the same time the future continued to be partially clouded by several circumstances, including uncertainties regarding oil control; and the markets consequently could not muster enough strength to move appreciably toward higher ground.

The market for gasoline at Mid-Continent refineries continued firm, although prices were mostly unchanged from the previous two weeks. Spot prices on U. S. motor fuel appeared to be averaging around 3¾, 4⅛, and 4⅝ cents a gallon for third, standard, and premium grades, respectively, in East Texas; 3⅞, 4¼, and 4⅞ cents in North Texas, and 3⅞, 4⅜, and 4⅞ cents in Group Three, Oklahoma, region. At 2½ cents, the price on gasoline moving from East Texas refineries into intra-state traffic was weaker. But distress offerings, on the eve of a new era of state shipping control, were involved.

The above refinery prices were not as high as at mid-November, but they were still fairly close to the peak levels of 1934, established in late May and early June.

Crude Prices and Retail Markets

The relatively strong refinery prices of November and December have so strengthened the crude oil markets that it has almost been forgotten a serious threat of crude price cutting was faced in late October.

But while prices have grown firm at the wells and stronger at the refineries in recent weeks, they have not reacted generally in similar favorable manner at the filling stations, where greatly depressed prices have prevailed over wide areas east of the Rockies since early October.

Depressed service station prices persisted in price-war areas of the East last week, despite conferences between oil company representatives, aimed at restoring profitable quotations. In the Middle West sub-normal prices still persisted also, following an unsuccessful effort of one important company to lead the way to higher ground. There has occurred, however, improvement

of retail prices in Texas and Oklahoma. With supplies of hot gasoline curtailed, Texas last week had generally 15-cent minimum postings on third grade gasoline, including five cents taxes, compared with a 10-cent price prevailing prior to Thanksgiving.

Price wars in the East and Middle West have been attributed in part to constroversy over differentials between prices of branded and unbranded products. But they were promoted also by influx of hot East Texas gasoline. Since such gasoline has been largely cut off, it has been hoped that the price wars would shortly terminate. While the wars have not yet ended in the important areas mentioned, the ability of participants to continue selling gasoline at the inordinately low prices has obviously been circumscribed, assuming that control of hot oil producing and refining will continue effective.

LAST week there was some increase of hot oil volume in East Texas, as eleventh hour shipments were made, prior to scheduled inauguration of a new intra-state shipping control program. The illegal output was indicated to have risen to around 50,000 barrels daily, although some estimates were lower and some higher. For several weeks prior to inauguration of the federal shipping control program, hot oil output of the area was above 100,000 barrels daily.

Federal Tender Program Attacked

While it continued thus successful, the regulation of East Texas was nevertheless approaching a critical period. Control in the area has evolved largely to a matter of regulating shipments of oil and oil products. And such control is due to be tested shortly in the courts.

The requirements for tenders on interstate shipments afford the federal government its only really effective enforcement weapon. They have virtually stamped out interstate shipping of hot oil and hot gasoline. But on December 10, federal district court at Tyler, Texas, is scheduled to hold hearings in cases brought by East Texas refiners, seeking injunctive relief, on contentions the federal tender requirements are invalid.

Texas Shipping Control Planned

The hot oil that was making its way last week out of East Texas reflected the ineffectiveness of the state oil control authorities in preventing intra-state shipping of hot gasoline and other products in tank cars and trucks. But such movement within the state had come to be looked upon by some as only a temporary evil, soon to be eliminated, in view of the deliberate, although slow-moving, plans of the Texas Railroad Commission to institute a new program of shipping control.

Such a program is scheduled to be inaugurated December 10, it is provided in orders promulgated December 5 by the railroad commission. Full effectiveness of the program is expected to be delayed until December 20, however, because of the slow but thorough manner in which the plan will be started. For 10 days after effectiveness of the orders, only a temporary system of issuing shipping permits will be employed, while oil companies prepare and file required inventories of all their stocks. One order affects crude oil, and another covers all crude oil derivatives. The inventories will give the commission a clear-cut starting point, and a conclusive check for future enforcement. Technically, the plan appears about perfect.

LEGALLY, also, the program seems to be sound. Authority of the commission under existing law to enforce the shipping control was recently upheld in a Texas appeals court. On December 25, moreover, a new state law will become effective, specifically authorizing such regulation. It is possible, however, that East Texas refiners, objecting to the shipping regulations, may find a way to defeat the plan, at least temporarily, in either state courts or federal. If this new hurdle proves unsurmountable for the refiners, it will be their first real stumbling block, aside from the similar federal tender regulation, which has itself not yet run the gauntlet of the courts, as above indicated.

New Attacks Predicted

IT was being freely predicted last week, in fact, that some East Texas refiners would collaborate in waging a desperate effort to have the courts strike down the new orders. A rumor was current, moreover, that a pot of $15,000 was being raised to institute such an attack.

In connection with the new Texas shipping control plan, it was also being maintained by some that the railroad commission was treading in deep water in making the regulations applicable throughout the state. Covering so much ground, the plan is likely to prove cumbersome, it was stated. The mere handling of details, apart from actual enforcement, will probably require an enlarged staff not available on current appropriations, it was argued. On the other hand, hot oil, against which the orders are aimed, has been confined mostly to the East Texas field. It would seem, consequently, that the commission's difficulties in enforcing the regulations would be limited largely to that area; that enforcement in the rest of the state, having general support and cooperation of operators, could be achieved with comparative ease and with relatively few commission agents.

Oil Code Case in Supreme Court

ARGUMENT is scheduled to start December 10 in the Panama-Amazon oil code case, which has gone up to the United States Supreme Court. But in Washington it has been pointed out that an opinion will

(*Continued on page 47*)

Tenders Required *by Texas Commission* On All Products

Austin, Texas.—As a final step in the program to prevent the movement of hot oil in Texas, the Railroad Commission last week issued two new orders, which will become effective on December 10.

Through the "tender" system set up by these orders, the commission will be able to trace every barrel of crude produced in Texas from the well to the retail outlet. The order was carefully prepared by attorneys O'Brien Stevens and Maurice Cheek. Each phase has been considered and studied thoroughly in an effort to prevent successful court attacks.

The orders apply to every field in Texas, except the East Texas field where a tender system applicable to crude oil was already operative; the processed oil order applies to East Texas as well as other fields.

The permit system applicable to crude oil follows closely the lines established by the system used in East Texas, while the order governing the movement of refined products is very similar to that issued by the commission August 29, of this year.

Every effort has been made to put the program in effect with the least possible burden on operators. A system of forecast tenders is provided which is intended to facilitate the movement of oil without unreasonable delay, yet permit a full check by the commission.

Crude Oil Order

Through the operation of the crude oil order the commission may trace every barrel of oil from the lease to the refinery by a system of permits which registers the oil. A series of four forms has been prepared.

The Form SW-1, which is to be furnished by the produced to the local commission deputy supervisor in the nearest office to the field, is an authorization form naming a certain transporter or transporters to take the crude from the leases involved. A complete description of each lease is set out, and if there is more than one transporter, the percentage of oil each is to receive must be specified.

This report remains on file in the local commission office, and it is unnecessary for the producer to file another form so long as conditions remain unchanged.

The initial transporter of oil from a lease is required to file in the local commission office Form SW-2. This report is filed in triplicate, one copy being returned to the transporter, one being retained in the local office, and the third copy being forwarded to Austin.

By the data contained in this report the commission will be able to determine that the transporter does not move more oil than "the unreceived balance of the stocks shown on the producer's authorization report (Form SW-1) to said transporter and of subsequent allowables, down to the current month, and the current month's legal or allowable production." No more oil than this may be received or transported during the period covered by the report filed.

On this report the transporter lists the properties from which he is to receive oil, as indicated on the Form SW-1, together with the allowable, an inventory of the oil on hand on the effective day of the order, as well as the amount to be delivered to each known consignee, "and points of delivery if possible."

All Forms SW-2 must be filed in the local commission office not later than the tenth day of each month. The local supervisor is required to stamp each form with the commission serial number which will follow the crude to its ultimate destination.

During the period between the first and the tenth of the month before this forecast tender is filed by the transporter, he may accept only the allowable from each lease to which he is connected.

Should a transporter desire to move any oil not covered by a report on Forms SW-2, EN-1, EN-2 or EN-3, he must file a tender on the Form SW-3.

This report must be filed in quadru-

(*Continued on page* 46)

Hot Oil Runs Up *Before State Shipping* Ban Effective

Tyler, Texas.—Illegal production in the East Texas field was estimated at 50,000 barrels daily average during the week ending December 3, or almost double the volume of hot oil credited with leaving the field the previous week. The increase is due to an effort to ship crude of a questionable source before the Texas Railroad Commission starts enforcing on December 10 a new statewide order that has for its intent and purpose a ban against all intrastate movement of crude and petroleum products lacking approved tenders. Interstate movements have been confined to legally produced crude in the East Texas field since the establishment of a federal tender board on October 25.

Tank car shipments of refined and semi-refined products have almost doubled in volume since a seasonal low mark of 1062 cars was reached during the week ending November 18. The increase has been largely confined to crude tops, which in reality is camouflaged crude, as result of plant owners having discovered that a ready market for this commodity is available at refining centers removed from the district. Reports indicate that only a small portion of the crude tops were processed, while the bulk of the shipments have been fresh crude converted into "tops" by the simple process of mixing with a slug of fuel oil, or higher gravity material. Since crude tops carry the same freight rate as crude, the railroads have not hesitated to accept this doctored crude as being a semi-refined product, due to their eagerness for tonnage.

Rail shipments during the week ending December 2 involved 2022 cars containing an estimated volume of 18,022,435 gallons of miscellaneous products. This movement included 1135 cars, or about 10,262,979 gallons of so-called crude tops. Heavy loadings were reported from some plants that have not operated for more than a month. Gasoline shipments by East Texas plants continue at a low level, while plants are catering to the Texas demand for low priced crude tops. During the past week 288 cars, involving about 2,343,692 gallons of gasoline, were loaded by plants, while during the same period about 1,650,000 gallons of gasoline was removed from the district by tank trucks. Rail movement of gasoline was mostly for interstate points, with approved federal tenders.

Tenders supported 803 cars of various products moved during the week, leaving 1219 cars that did not have proof of legality of the crude same was derived from. However, the movement of 1549 cars to intrastate points included considerable material that was tendered, as only 335 cars moved into interstate commerce while 138 cars were consigned to coastwise traffic, both requiring federal tenders.

Due to an eight-cent tank wagon and 10-cent retail gasoline price prevailing in Dallas, Fort Worth and other important cities

within the state, the East Texas plants are forced to sell at about 2½ cents net, f.o.b. dock, or 7½ cents per gallon including taxes, to compete for business.

There were 27 refineries and skimming plants reported in operation in East Texas district during the fore part of last week. Crude throughput for all plants during the week ending December 3 was estimated at 39,000 barrels daily.

EAST TEXAS TANK CAR SHIPMENTS
Week Ending 7 a.m., Dec. 2

Products	No. Cars	Gallons
Topped crude	1,135	10,262,979
Fuel oil	292	2,799,284
Gasoline	288	2,343,692
Casinghead gasoline	118	1,007,641
Distillate	63	526,974
Gas oil	52	433,384
Residuum	44	399,334
Kerosene	16	131,778
Naphtha	13	105,360
Crude	1	10,000
Total	2,022	18,022,435
Tendered		803
Without tenders		1,219
Total		2,022
Intrastate points		1,549
Interstate points		335
Coastwise points		138
Total		2,022

NIRA Defended *Strongly in Brief* *By Government in* Amazon Case

Washington, D. C.—Strong defense of the National Industrial Recovery Act and the oil code is made by the government in briefs filed with the United States Supreme Court December 6 in the Amazon case, oral argument on which is to be heard next week.

The case is the first test of the recovery law to be brought before the court and is of extreme importance, as indicated by the act that the brief filed by Solicitor General J. Crawford Biggs is one of the most voluminous submitted over a long period.

Eleven Questions

Eleven questions are held by the government to be involved in the suit, one of the most important being whether the authority given the President to approve codes of fair competition is a valid delegation of power. The court's ruling on this point will of necessity have an important effect upon the whole industrial recovery movement, since an adverse finding would automatically nullify the hundreds of codes made effective by executive order. The brief also covers the question as to the extent of the congressional power to regulate commerce and whether the oil code violates the due process clause of the fifth amendment to the constitution.

The demoralized condition in the oil industry and the extremely competitive situation are contended by the government to have made necessary the oil code. These conditions, it is held, while in normal times of importance possibly only to the industry involved, in times of stress affect the nation as a whole.

It is contended that the oil producers, while not directly engaged in interstate commerce, contribute thereto and therefor, under the emergency may legally be regulated by the government.

Interstate Commerce

Inasmuch as oral argument before the supreme court is limited to matters incorporated in the briefs, the government answers all allegations of the Amazon brief in detail.

"The emergency condition existing at the time of the enactment of the recovery act, and still existing," it is declared "may have the effect of rendering certain types of transactions, which in normal times have only an indirect or incidental effect on interstate commerce, matters of great moment and powerful effect.

"In the national emergency, the situation had to be viewed as a whole. When over-capacity, overproduction, cut-throat competition, and various unfair trade practices existed side by side with unemployment and reduced purchasing power, and as a consequence the commerce of the country was crippled, Congress might reasonably conclude that drastic action commensurate with the needs of the situation was required.

"The doctrine that while emergency does not create power, emergency may furnish the occasion for the exercise of power, has been applied to the interpretation of, not only the due process clause, but the constitutional provision that no state shall pass a law impairing the obligation of contracts, in emergency, while not creating powers, may nevertheless bring to the attention of Congress and the courts conditions and relationships not previously recognized which call for the application of powers admittedly in existence.

East Texas Car *Shipments* *Are* Reduced 65 Percent

Washington, D. C.—A reduction of approximately 65 percent in the volume of oil and oil products moving out of East Texas has been effected through the operations of the Federal Tender Board, according to informal reports received by Oil Administrator Harold L. Ickes from Chairman Norman L. Meyers this week.

Taking for purposes of comparison, the month previous to the inauguration of the tender plan and the month immediately following, the Administrator announced that the movement declined from 14,944 cars carrying 128,295,418 gallons to 5444 cars carrying 47,845,990 gallons. The interstate movement, he said, was reduced from 6688 to 995 cars and the intrastate movement dropped from 8256 to 3788 cars.

During the first month of its operations, it was shown, the board approved 675 tenders for the production and/or shipment of approximately 19,000,000 barrels of crude oil or its refined products.

Details of the movement of oil before and after the inauguration of the tender plan are shown in the following table, prepared by the oil administration.

A table comparing the shipments by products in the two periods follows:

PRODUCT	September 26 to October 24 (Inclusive)		October 25 to November 22 (Inclusive)	
	No. of Cars	Gallons	No. of Cars	Gallons
Gasoline	5,656	45,962,463	1,383	11,303,691
Fuel Oil	3,145	29,470,008	889	8,539,480
Residuum	997	8,807,856	96	875,924
Kerosene	481	3,926,666	80	634,954
Distillate	1,493	12,302,887	172	1,398,504
Topped Crude	1,769	15,898,830	2,000	17,937,782
Casinghead	514	4,478,901	573	5,002,319
Gas Oil	780	6,445,533	175	1,481,601
Crude Tops	58	494,537	63	552,430
Crude Oil	51	509,737	11	111,246
Naphtha	.....	.....	1	8,079
Totals	14,944	128,295,418	5,444	47,845,990
Interstate	6,688	.....	995	.....
Intrastate	8,256	.....	3,788	.....
Coastwise	.....	.....	661	.....

If that requisition reads

MODERN OIL CO

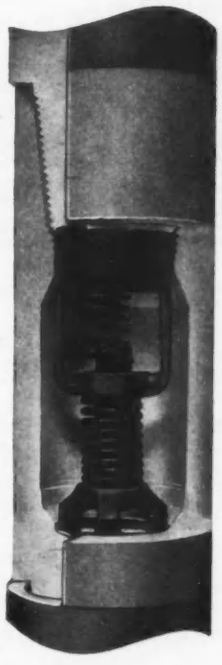
BAKER BAKWIK DRILL PIPE FLOAT

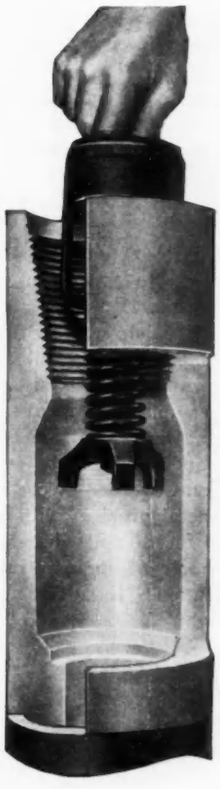
you can depend upon the good judgment of your field men!

No. 2767

Requisition order for Well #2

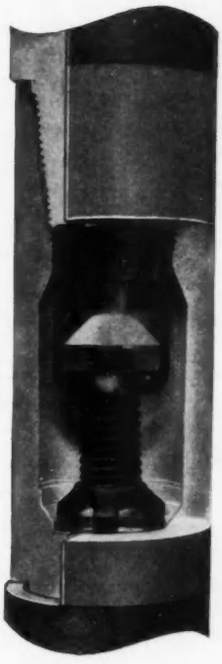
1	4½" A.P.I. Baker Bakwik Drill Pipe Float
3	4½" A.P.I. Extra Bakwik Valve Assemblies





They *know* that an expenditure of $50 to $80 will provide them with a safe, trouble-proof long wearing drill pipe float which will . . .

- reduce the weight on derrick and rig equipment
- lengthen the life of wire lines and brake bands
- minimize wet pulling jobs
- prevent plugging of the bit
- eliminate necessity for a stop-cock
- permit reverse circulation by merely unseating the back-pressure valve
- minimize danger in case of a parted drilling string
- and, of course, safely "float-in" the longest, heaviest drilling string



While running-in, the valve provides a leak-proof seal against back-pressure. The valve assembly is held in position by the tool joint pin. The Bakwik design eliminates all threads. (See above.)

When the pumps are started, the valve is unseated. The large, stream-lined passageways do not restrict circulation. Abrasion-resisting materials insure long life and operating economy. (At right.)

When surveying instruments or go-devils are to be run, the entire valve assembly is easily lifted out by hand. The length of the drilling string is never changed — no chance to make errors in measurements.

Complete information is in the Baker Catalog. Is your copy handy, or would you like to have us send you the 1934 Edition?

NRA

BAKER OIL TOOLS, INC.

SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

P. O. BOX 609, HUNTINGTON PARK, CALIFORNIA

COALINGA • TAFT • HOUSTON • OKLAHOMA CITY • TULSA • NEW YORK

Interstate Compact *Not Approved at Governors Meeting and* Seems Remote

Ponca City, Okla.—Consummation of an oil state's compact seemed remote as the governor of one state, the governors-elect of two states and representatives of other oil producing states concluded their conference here eearly Monday evening, December 3. The conference, called by Governor-Elect Ernest W. Marland of Oklahoma, was slow getting under way due to late arrival of several of the designated representatives and members of the Cole Congressional Committee. However, when all representatives had arrived it was not long before things began to happen. In a closed meeting held Monday morning Governor-Elect James V. Allred of Texas definitely stated his position with regard to federal oil control and state compact. During this discussion Allred entered into a lively discussion with J. R. Pemberton, state oil and gas umpire of California. This discussion was carried over into the open session held during the afternoon.

Upon opening the session of the afternoon Governor-Elect Marland outlined the general problem with which the industry is faced and discussed the different schools of thought regarding a possible solution. His address in part was as follows:

"As governor-elect of the sovereign state of Oklahoma, I have invited you to this conference to discuss matters of great concern to our several states and to our nation.

"It is estimated by competent authority that we now have an oil reserve of approximately 12 billion barrels recoverable from proven fields by some 350,000 existing wells and wells that may hereafter be drilled in those fields.

"I believe that experienced oil men will agree with me that approximately three fourths, or nine billion barrels, of our recoverable oil reserves, must be produced from some 300,000 small wells by mechanical methods and I believe they will agree with me that 75 percent of this proven reserve is in danger of being lost on account of the inability of the owners of these small wells to produce their oil in competition with the oil produced from flowing wells.

"It is generally recognized that nine billions barrels of this proven reserve must be produced by artificial methods (pumping and lifting) at a cost many times greater than the cost of producing the three billion barrels of recoverable oil by flowing methods.

"At the present time low cost flowing oil is being brought to the surface and dumped upon the market, thereby forcing the shut-down and abandonment of the small wells of higher production cost, with the resultant loss to the owners of the land upon which these wells are located; a loss to the state of its revenue; a loss to the people of the nation of an irreplaceable resource of enormous economic value.

"Our oil is being produced and sold on the market of the United States and of the world at less than its economic value to the consumers when we measure this value by the probable cost of producing internal combustion engine fuel and lubricants from any other source. To produce nine billion barrels of oil from either shale or coal by known methods of production would probably cost $3.50 a barrel. To recover the same amount of oil from our non-flowing settled producing oil wells in known fields, provided they can be preserved, will cost less than one half that amount. The prevention of the loss of production from the present small wells of this country means the saving of a resource of an economic value of approximately 15 billion dollars.

"It is of great concern to us, as oil producing states; it is of great concern to our land owners, to our taxpayers and to the public; it is of great moment to our nation that this natural resource of ours be not lost.

"There is a general recognition of the fact that regulation of crude oil production by governmental authority of some character is essential to prevent waste and economic destruction of a great portion of our oil reserves. There appears to be a growing opinion that the rate of production of oil should be balanced with demand. There are three major schools of thought on the method of control of production:

"One would leave the industry to accomplish restraints by agreement. However, for many reasons, that method has been a failure.

"A second insists that the federal government should undertake control of our wells. But to many of us that means an undesirable centralization of power and the breakdown of the sovereignty of the states.

"A third holds that the volume of production should be controlled by the police powers of the state, coordinated with the other oil producing states under an interstate compact, with the cooperation of the federal government in ascertaining the market demand, suggesting allowable production to the various oil producing states, and federal control of imports and interstate movements of oil produced in violation of state laws.

"Constitutional authority for the interstate agreements has granted authority to the states to enter into interstate compacts. Under this method the states will continue to exercise self government under existing constitutional rights; these to be supplemented and not supplanted by the federal government."

"While the Constitution of the United States expressly prohibits the states from making any agreement with each other without the consent of Congress, yet in the exercise of their sovereignty, in the exercise of the powers reserved to the states, it is their duty, Congress consenting, to enter into agreement with reference to the common good and the proper exercise of duty forbids any state to 'live unto itself alone.'

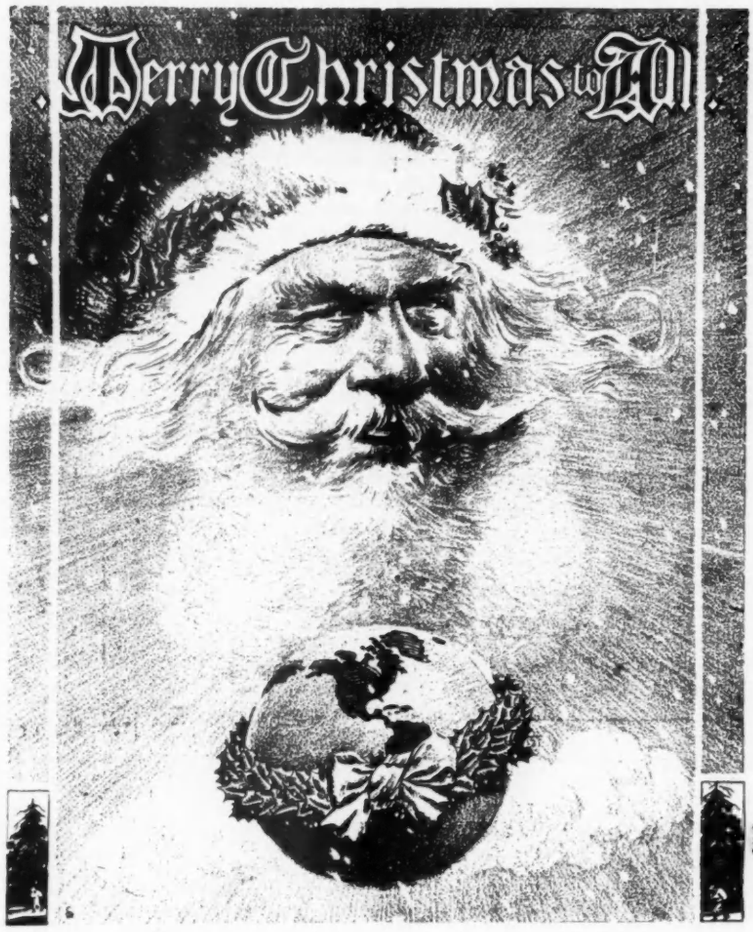
(*Continued on page* 48)

Ickes Says Governors Had Ulterior Purposes

Washington, D. C.—Characterizing the Ponca City conference of the governors of the oil states as a "red herring dragged across the picture for ulterior purposes," Oil Administrator Harold L. Ickes declared today that the sponsors of the movement for an interstate compact on production knew before they started that they would get nowhere. "I don't believe they believe in it themselves," he asserted.

Pointing out that efforts have been made for a number of years to regulate production by state agreement and charging that the plan is impracticable because all the states do not have regulations, the administrator charged that "they are trying to get away from any control at all." The failure of the governors to reach an agreement was seen by Ickes as strengthening the possibilities for federal control legislation.

The administrator also paid his respects to the group at Kilgore, which on December 5 demanded his resignation, declaring that "if they had had any experience they would not ask my removal. Kilgore is the hot oil center of East Texas. It is also the trouble center for that reason."



A Gift from Christmas to Christmas

YOU CAN extend your Christmas gift from one Christmas to the next by giving your friend a subscription to The OIL WEEKLY. No other gift could be more appropriate, because no other gift could be of more value to him in his work.

EACH WEEK he will receive a panorama of the important news as it affects the oil industry. He will receive many engineering and semi-technical articles on drilling and production methods and problems. He will receive editorials, markets, and statistics.

SEND in the coupon below and your gift will begin with the December 24th issue. A letter along with the first installment of your gift attached will reach your friend on Christmas Eve.

The OIL WEEKLY,
P. O. Box 2811, Houston, Texas

Enclosed find $1.00 for a gift subscription to . . .
The OIL WEEKLY

Please send The OIL WEEKLY to:

*Name*_____

*Address*_____

*Employed by*_____ *Company*

*Position*_____

CRUDE OIL STOCKS

(Since Oil Code Inauguration)

Bureau of Mines figures as compiled montly, comprising all crude in storage in the country.

At end of:	Total Bbls. in storage
August, 1933	360,001,000
September	359,979,000
October	356,885,000
November	355,614,000
December	355,394,000 / *354,305,000
January, 1934	353,642,000
February	531,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June	357,239,000
July	355,260,000
August	350,838,000
September, 1934	348,937,000

*On revised basis, 1,089,000 barrels having been transferred from crude to fuel oil in California.

Trend of stocks situation since end of August figures being from weekly reports to federal government by companies *holding 100,000 barrels or more.*

September 29	333,552,000
October 27	330,946,000
November 3	331,876,000
November 10	329,072,000
November 17	327,676,000
November 24	326,323,000

UNITED STATES PRODUCTION

(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced)

Month	Daily Average (Barrels)	Federal Agency Allowable
Aug., 1933	2,748,100	.....
September	2,568,250	2,413,700
October	2,392,900	2,338,500
November	2,267,243	2,338,500
December	2,266,426	2,210,000
Jan., 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
Nov.,1934	*2,369,508	2,340,300

*Preliminary, subject to revision.

MOTOR FUEL STOCKS

(American Petroleum Institute figures, as shown in weekly reports)

Date	Motor Fuel stocks, bbls.
September 9, 1933	50,913,000
September 30	50,457,000
October 28	52,727,000
November 25	51,934,000
December 30	51,580,000
January 27, 1934	50,229,000
February 24	55,976,000
March 24	57,879,000

After March 24, 1934, figures shown represent stocks of finished gasoline, to be marketed as motor fuels, including natural gasoline which has been blended, and gasoline made from refinery still gases.

March 24	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25	46,120,000
September 29	43,850,000
October 27	41,993,000
November 3	41,535,000
November 10	40,812,000
November 17	39,892,000
November 24	40,206,000
December 1, 1934	40,831,000

Industry's Statistical Position Further Improved *During November*

THE steady improvement of the petroleum industry's statistical position that has been under way for several months continued during November. Both crude oil production and refinery operations were held under strict control, with the result that further substantial reductions were made in the stocks of both crude and gasoline.

The gasoline stocks declined during the month, in fact, to levels generally regarded as the lowest that were practicable in carrying on normal business. There were, indeed, instances where some companies were pinched in obtaining sufficient motor fuel to fulfill their requirements.

A reversal of the long-continued downward trend of gasoline stocks occurred, consequently, shortly after the middle of November, and the stocks were on the increase the rest of the month. The increase was smaller, however, than the early-month decline, resulting in a net reduction of about 1,000,000 barrels for the month.

At the bottom of the decline, reached November 17, the finished gasoline stocks aggregated 39,892,000 barrels. They had come down over 17,000,000 barrels in the 7½ months of consistent decline from the year's peak of 57,098,000 barrels on hand March 31.

Continuation of the late November upward trend of gasoline stocks is to be anticipated in coming months, in preparation for normal spring expansion of demand.

WELLS COMPLETED IN THE UNITED STATES

(Including oil wells, gas wells, and dry holes)

Month	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	*53.6
August	51.3
September	43.2
October	49.6
November, 1934	49.9

*Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4, and remained below that figure until July, 1934.

Production Below Demand

Although crude production was somewhat above the limits prescribed by the federal government, it was actually below market demand, as evidenced by the fact around 5,000,000 barrels were withdrawn from storage during November in fulfilling requirements. Unusually large as it was, that reduction of crude stocks did not reflect, moreover, the full extent by which demand exceeded production. For refinery consumption of crude was held below normal, as indicated above, with demand for gasoline being met by withdrawals from storage to the extent of about 1,000,000 barrels.

Drilling activity continued during November at a relatively high level, having been slightly greater than in October, and not far under the busiest months of the year, May, June, July and August.

Crude Oil Production

Although the United States crude oil production allowable was raised for November 15,000 barrels above the October allowable, the national output increased only about 5000 barrels. The November production averaging 2,369,508 barrels daily, was approximately 29,000 barrels above the federal agency allowable of 2,340,300 barrels per day. In October the 2,364,150 barrels daily production was about 39,000 barrels above the 2,325,800-barrel allowable for that month.

The figures here given do not, moreover, include unreported, hot oil, which

has been produced mainly in the East Texas field. Such production in that area averaged around 100,000 barrels daily during most of October. But in November it was indicated to have dropped sharply to an average of not much over 25,000 barrels daily, due largely to inauguration of the federal government's shipping control program October 25. Thus for November actual production is indicated to have been much nearer the allowable than for October. Counting the unreported output, the actual excess above the allowable was apparently about 54,000 barrels daily in November, as against 139,000 barrels per day in October.

Crude Oil Stocks

During November the stocks of crude oil in the United States are indicated to have decreased about 5,000,000 barrels, as against about 2,000,000 barrels in October. This relatively large draught upon stocks represented concrete evidence of the above indicated stricter adherence to production allowables during November. Despite some continued excess of output above prescribed limits, the excess was much smaller, and production was sufficiently below actual requirements to necessitate substantial withdrawals of crude from storage.

The latest available official figure on all crude oil stocks in the United States is that of 348,937,000 barrels on hand October 1. But reductions during both October and November are indicated in the weekly reports made to the federal government by companies holding 100,000 barrels or more. The stocks of such companies declined from 333,552,000 barrels September 29 to 330,946,000 barrels October 27; rose back to 331,876,000 barrels by November 3; then declined consistently to 326,323,000 barrels by November 24. During the week ending December 1, however, the stocks are indicated to have remained virtually unchanged, as the American Petroleum Institute for the week reported crude production 3600 barrels per day higher and crude runs to stills 165,000 barrels per day lower than in the previous week, when crude stocks declined more than 1,000,000 barrels. November was the fifth month of consistent decline of crude stocks. The stocks have declined in all but a few of the months since the oil code was inaugurated over a year ago, and are now about 17,000,000 barrels lower.

Gasoline Stocks Lower

With refinery operations still under strict regulation through the oil code program, gasoline production was rigidly controlled in November, and for meeting market requirements about 1,000,000 barrels of gasoline were taken from storage. The stocks aggregated 41,993,000 barrels October 27, and 41,535,000 barrels November 3, according to the American Petroleum Institute, but had come down by November 17 to 39,892,000 barrels; after which they rose again by December 1 to 40,831,000 barrels.

November was the eighth month of uninterrupted contraction of gasoline stocks, as previously indicated. The stocks on hand at the end of November were over 16,000,000 barrels lower than on March 31. The consistent reduction of gasoline inventories has accompanied the program of refinery control under the oil code.

Prices Slightly Higher

Prices of crude oil continued generally at the long-established levels during November, although a 25-cent cut was applied on Pennsylvania crude early in the month. Refined oil prices at the refineries showed material improvement for November, especially in the Mid-Continent, as compared with the inordinately depressed prices that prevailed during a large part of October. The November refinery prices on gasoline were, in fact, the best of the year, with exception of those, only slightly higher, that prevailed in the latter part of May. The gasoline market in the Mid-Continent improved greatly around the opening of November, due to clamping down by the federal government on hot oil producing and refining in East Texas late in October; and in the opening half of November some further improvement materialized, while the gains were generally held in the latter half of the month. To some extent the demoralized retail gasoline marketing conditions east of the Rockies during October were eliminated late in November, although retail postings continued depressed at the end of the month in the important consuming areas of the Chicago area and of portions of the Atlantic seaboard. Sharp curtailment of the supply of hot gasoline from East Texas finally brought decided improvement of retail prices in Texas and adjacent states late in November, and was contributing toward restoration of higher postings in other price-war areas. The Eastern and Middle Western sub-normal prices were due, however, not only to hot gasoline, but also to persistent controversy over differentials between prices of branded and unbranded material, and over margins to dealers. Efforts to achieve agreements in those matters were carried on during the month, but they had not been successful as the month ended.

Drilling Activity

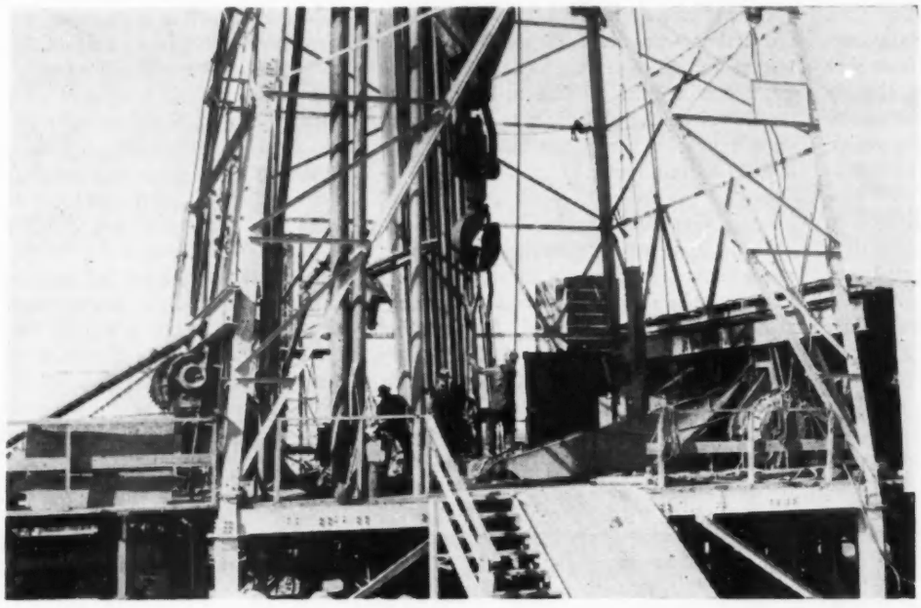
During November wells were completed in the United States at the average rate of 49.9 daily, counting oil wells, gas wells, and dry holes. That average was fractionally higher than in October, when the completions averaged 49.6 daily. Completions had averaged 43.2 daily in September, 51.3 daily in August, and 53.6 daily in July, when the peak of field activity since July, 1930, occurred. Smallest field activity of 1934 was in February, when completions averaged 38.1 daily. In 1933 completions ranged from 21.1 daily in June to 47.7 daily in December.

As compared with October, the field work of November was slightly greater in Texas, Oklahoma, Kansas, New Mexico, California, and Michigan. Louisiana drilling continued unchanged. Slight declines were recorded by Arkansas, the Southeastern States, and the Rocky Mountain States, and a decline of about 15 percent by the Eastern States.

Monthly Summary of United States Drilling and Production, November, 1934

STATE	MONTH OF NOVEMBER, 1934						CUMULATIVE, JANUARY THROUGH NOVEMBER, 1934					
	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.
Oklahoma	139	90	8	41	77,241	13,707,000	1,744	1,106	88	550	900,610	161,980,750
Kansas	82	53	4	25	32,392	3,696,500	847	575	19	253	282,651	41,509,650
Texas	740	529	18	193	1,788,607	28,657,500	8,995	6,615	240	2,140	26,300,350	328,211,500
Louisiana	68	28	11	29	15,298	3,145,650	720	355	67	298	182,052	29,209,300
Arkansas	9	5	.....	4	1,085	912,550	76	29	1	46	4,485	10,403,750
Southeastern States	.....	.....	.....	.....	.....	.....	38	.....	8	30	.....	.....
Eastern States	223	90	81	52	2,978	3,072,550	2,034	877	678	479	25,444	33,449,350
Michigan	38	21	2	15	3,221	773,250	447	282	39	126	182,121	9,715,700
Rocky Mountain States	21	10	4	7	1,826	1,510,050	237	143	29	65	27,513	15,148,300
New Mexico	18	12	2	4	12,600	1,383,600	106	81	7	18	205,965	15,133,050
California	59	55	.....	4	46,545	14,226,600	574	395	.....	179	500,485	160,556,981
Totals	1,397	893	130	374	1,981,793	71,085,250	15,818	10,458	1,176	4,184	28,611,676	805,318,331

*Preliminary, subject to revision.



Full double drawworks and two engines are standard equipment.

Louisiana Coast's *Easy Drilling Conditions Factor in* Deep Play

BRAD MILLS
Associate Editor

THE Louisiana Gulf Coast is experiencing a new type of development that has increased greatly the oil reserves of the district. Improved drilling methods and more effective application of geophysics have been the principal factors in a deep development campaign that quickly has changed this coastal belt into one of the deepest producing districts in the world.

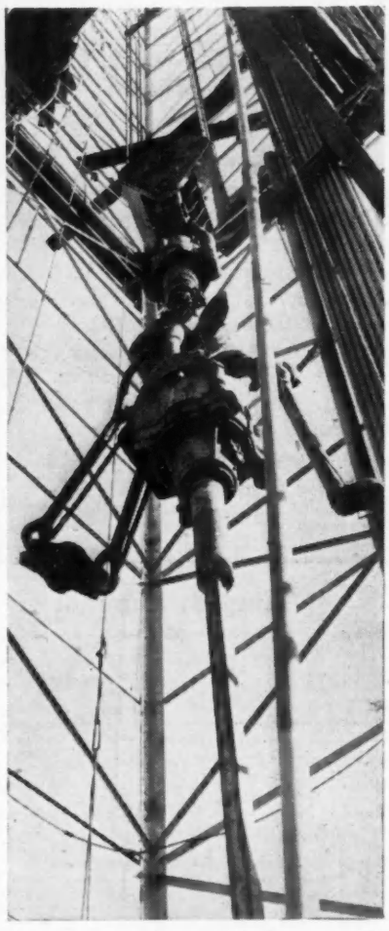
It was the custom until a few years ago to regard the Louisiana Gulf Coast as a comparatively shallow producing district. Surface indications, gas seeps and paraffin dirt were the principal means of discovery of the shallow salt dome fields. The search for new fields has been extended on a large scale to deeper formations, and production from depths of more than 10,000 feet is a distinct possibility in the next few years.

Louisiana Coast wells are being drilled to 8000 and 9000 feet with less effort and expense and in a shorter time than have been required in the three or four 9000-foot producing districts in other parts of the world. The upper formations are predominately sands and soft shales, and remarkably fast drilling records have been made. These soft formations above 7000 feet are an encouraging factor in the very extensive search for evidences of deep seated salt domes.

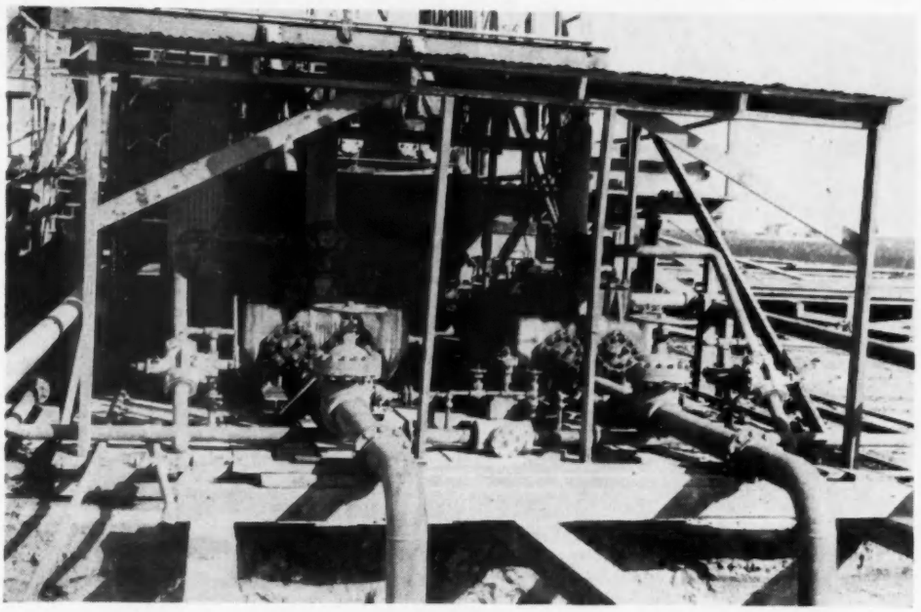
The new deep seated salt domes now under development are Bosco, in Acadia Parish, and Roanoke, in Jefferson Davis Parish. The Iowa field, in Calcasieu and Jefferson Davis parishes, was the first field of this definite group to develop deep production. The discovery well in this field was deepened and completed in 1931 just above 7000 feet to become a sensation. Development of this field has indicated strongly the possibility of similar production toward both the east and west. It was not until 1933 and 1934, however, that a deep trend toward the east was found. A strip between Lake Charles and Baton Rouge holds much promise, and deeper drilling in a number of areas will follow present leasing activity.

Thus is a very few years the oil map of the Louisiana Gulf Coast has been changed to include a group of very deep producing fields. The natural trend in all parts of the world has been toward deeper production, but the change from very shallow depths to extremely deep producing levels has been conspicuous in this district.

The extent of the Louisiana coastal plain is so great that geophysicists, geologists and operators are faced with a difficult task in establishing or following deep trends. Several hundred thousand acres are so flat and offer such limited surface contrasts that deep



Traveling equipment is heavy and of the latest type.



Slush pumps bear the brunt on the load when making record time.

discoveries already made deserve more than passing attention.

The new Bosco field is one of the deepest and most interesting along a narrow belt now under extensive development. The discovery well, Superior Oil Producing Company's and Pure Oil Company's P. O. Hernandez 1, was a surprise completion in April, 1934, coming in with a daily flow of 800 barrels of 38.6 gravity oil through eight special gun perforations shot between 7845 and 7850 feet. The well was drilled to 8916 feet and a string of seven-inch casing landed at 8830 feet, but it was considered wise to make some kind of production test of the shallower showing before drilling out the cement. The well has been producing steadily through the eight gun perforations.

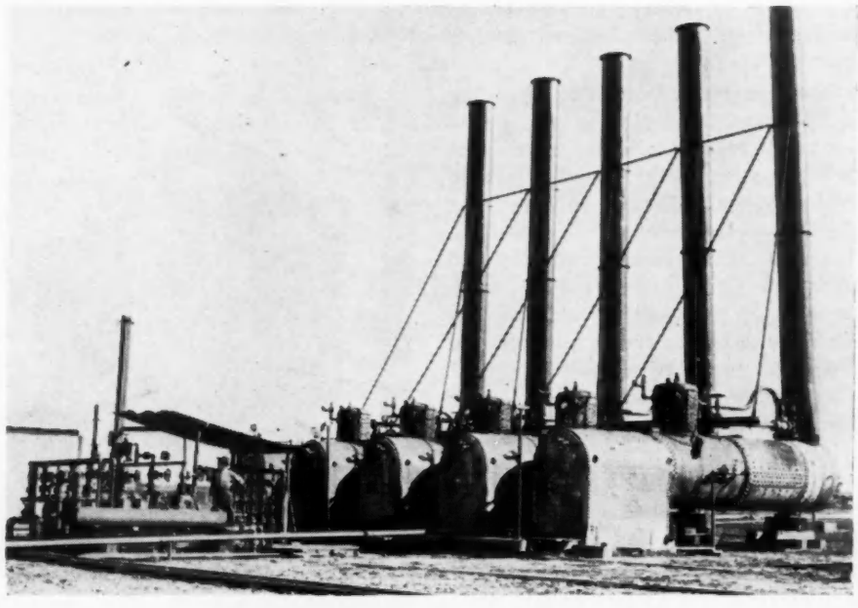
The geology of the Bosco field is interesting and significant. The systems between the surface and 9400 feet include Recent, Pleistocene, Pliocene, Miocene and Oligocene. Some question arises as to exact classification of these systems or groups, due to absence of definite top and bottom markers, but the lower formations yielding production have been fairly well classified.

More than 90 percent of the formations between the surface and 7600 feet is sand and soft shales, with sands definitely predominating. Possible oil bearing deposits are so thick in this immediate area that production may be developed at record levels. The thickness of sedimentary deposits along strips of the Louisiana Gulf Coast apparently runs from 15,000 to 20,000 feet. Only the Gulf Coast and California have promising sedimentary deposits with a much greater thickness than may be penetrated with present drilling methods.

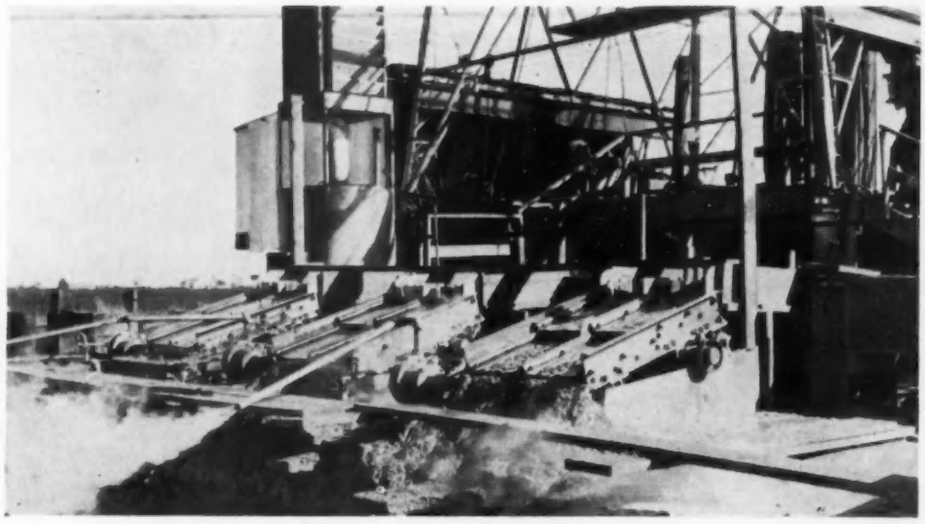
The Discorbis zone of the Oligocene (?) is encountered at about 7600 feet in inside wells and extends to about 7940 feet. Some geologists in this district of Louisiana are inclined to include at least a part of this formation in the Miocene, but the lower portion seems definitely in the Oligocene. From 7600 feet to 7800 feet the Discorbis runs to shale, with some sand. Productoin in this formation is found from 7800 to 7845 feet, with the top portion yielding considerable gas with the oil. From the water line at 7840 feet to 7940 feet the Discorbis runs mostly to sand.

The Heterostegina zone is found in inside wells at about 7940 feet and extends to 8360 feet. The producing zone in this formation extends from 8060 to 8090 feet. Top and bottom of this zone has been well defined.

The Marginula zone is encountered in inside wells at about 8360 feet and extends to some level near 9000 feet. Only three wells have been drilled to depths greater than 9000 feet, and it has been difficult to identify the Frio (above the Vicksburg). In the discovery well Frio was placed at 8916 feet. A gas sand which produces no oil is found in the Marginulina zone from 8400 to 8420 feet. The oil sand in this formatoin, and the third encountered



Typical boiler installation in the Bosco field.



Three vibrating mud screens are used to handle the large volume of sand and shale brought up during rapid drilling.

in the field, is found at 8600 feet and extends to 8620 feet. The remainder of the Marginulina zone is composed of sands and shales.

The deepest well drilled in the field was abandoned temporarily at 9350 feet. This test, Superior Oil Producing Company's and Pure Oil Company's A. Martinez 1, was located 8000 feet east and a little south of the discovery well, and was thought to be a flank location. One well was abandoned at 9171 feet and another test, now drilling below 9200 feet, may be carried deeper than the present depth record. Twelve producers have been completed and six tests have been abandoned for various reasons. Four of the abandonments were flank wells located outside the producing limits of the field, and two developed mechanical trouble. The field has been only partially defined, and abandonment of several deep flank tests does not remove possibility of very deep production in several zones believed to be present and which are productive in other sections farther from the coast.

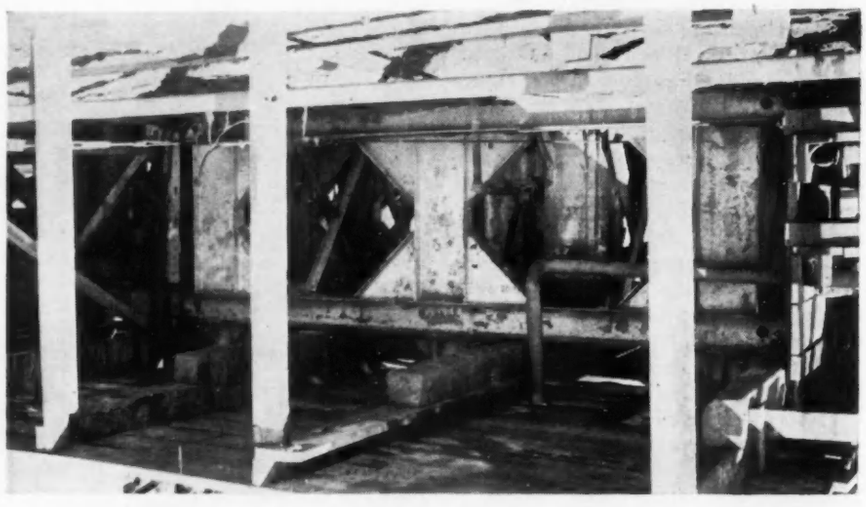
Development at Bosco has been very rapid. Due to lease requirements it was necessary to drill a larger number of wells than ordinarily would have been drilled. When it became apparent that the first well would open a new field, Superior Oil Producing Company and Pure Oil Company started six additional wells that were located at consiedrable distances and in all directions from the prospective discovery well. Eight more wells subsequently were started as the result of information obtained in drilling the first seven wells. It was necessary to drill most of the wells to protect short term leases.

A number of remarkable drilling records have been made in the Bosco field by Superior Oil Producing Company, subsidiary of Superior Oil Company of California. The upper formations are ideal for fast drilling, and through the use of heavy equipment and latest methods wells have been completed in less time than in any other Gulf Coast field of similar depth. The company's Helaire Trahan 1 was drilled to 7000 feet in nine days, with two days of this time having been consumed in running a string of 13⅜-inch casing. One drilling crew made more than 750 of hole in less than eight hours. The well was drilled from the surface to 7855 feet, a string of 9⅝-inch casing cemented at 7839 feet, and the well tested in an elapsed time of less than three weeks.

The equipment used in drilling Helaire Trahan 1 was similar to that used in drilling other wells in the field, except that the latest boiler, slush pump, vibrating screen and swivel installations were employed. The same type of equipment had been used by the company in California, but it made its Gulf Coast appearance at Bosco. Much of it is the heaviest ever used in the district.

The boiler installation at Helaire Trahan 1 reflects the thought given this phase of development by the company. Five 125-horsepower boilers operating at 350 pounds and each equipped with super-heaters deliver a steam supply several times greater than the average boiler installation of a few years ago. The stack braces give the installation a very neat appearance. This bracing includes two lengths of small pipe extending from a collar on each stack to a heavy horizontal anchor placed across the top of the boilers. These ten bracing members are supplemented by braces of similar material extending horizontally between each stack. The rear bracing is effected by conventional guy wires.

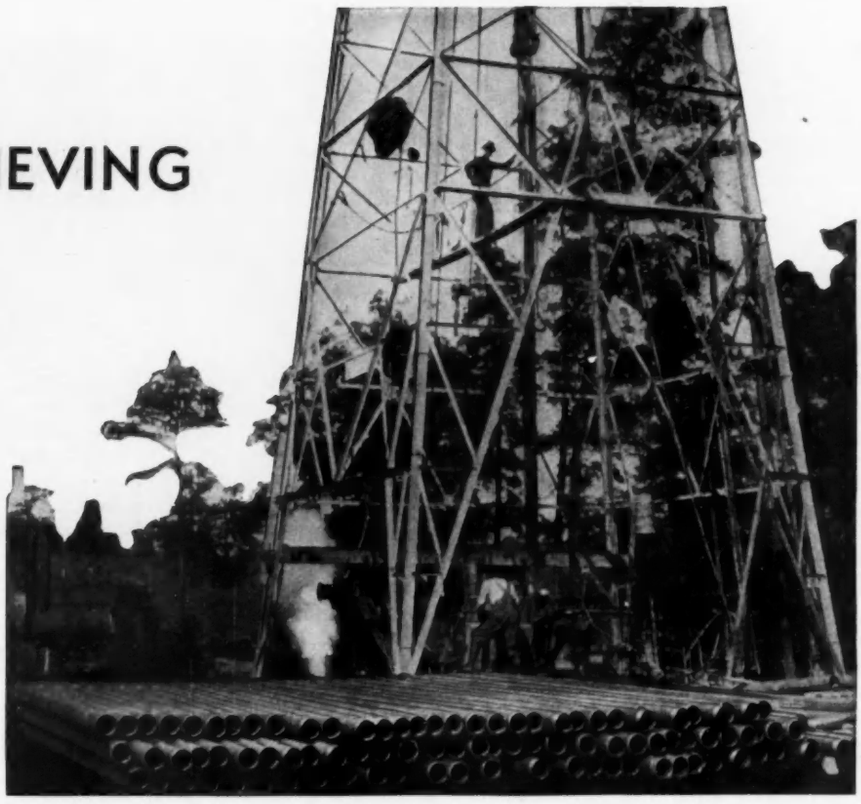
The boiler feed pump installation also is a radical departure from the one or two small pumps of a few years ago. Three 10 x 5 x 10 duplex pumps are used to supply the five boilers. The pumps are mounted on a single heavy steel frame for portability. It is necessary in disconnecting or connect-



Heavy steel foundation under each of two engines used in drilling a well in the Bosco field.

SEEING IS BELIEVING

when it comes to PIPE



Bona fide evidence from the field is the last word when it comes to proving pipe superiority. The photograph shown here pictures current drilling operations where Chester Steel Casing is being run in—and in the words of the superintendent "Everything is hunky-dory."
Rigid inspections of Chester Steel Casing, before shipping guarantee the highest standards of quality and workmanship—adequate stocks at strategic warehousing points mean that you get the pipe you want when you want it.

Try CHESTER—*it means the end of your pipe worries.*

Chester also makes "Wrought Iron" pipe—manufactured from genuine old-fashioned hand puddled muck bar made in our own mills from 100% pig iron.

SOUTH CHESTER TUBE COMPANY, Chester, Pa.

District Sales Managers

W. E. Gibson: 801 Columbia Bank Bldg., Pittsburgh, Pa.

H. A. Morse: 30 Church St., New York, N. Y.

J. P. Cooney: 715-716 A. G. Bartlett Bldg., Los Angeles, Calif.

J. P. Steele, 603 Petroleum Bldg., Ft. Worth, Texas.

District Offices

J. D. Swartz: 1231 S. Evanston St., Tulsa, Oklahoma.

E. L. Moseley: 2218 Mills St., Houston, Texas.

Burt S. Shafer, Southwest Representative: 4313 Fairfax Ave. Dallas, Texas, or 603 Petroleum Bldg., Ft. Worth, Tex.

District Warehouses

Houston, Texas; Thenard, Calif.; San Francisco, Calif.

Distributors

United Pipe & Supply Corp., Charleston, Danville, West Hamlin, W. Va.; Paintsville, Ashland, Allen, Prestonburg, Ky.

Prichard Supply Co., Mannington, W. Va.; Mather and Waynesburg, Pa.

LeValley, McLeod, Kinkaid Co., Inc., Elmira and Olean, N.Y.

Kane, Supply Company, Kane, Lawrenceville, Brookville, Pa.

Bovaird & Co., Bradford, Pa.

Western Supply Co., Tulsa, and Oklahoma City, Okla.; Dallas, Houston, Pampa, and Willow Springs, Tex.

Star Drilling Machine Co., 550 Clinton St., Portland, Ore., and Akron, Ohio.

Stephen H. McCabe, 508 4th St., San Francisco, Calif.

Barde Steel Company, Seattle, Wash., and Portland, Ore.

Louisiana Supply Co., Sulphur, La., and Brimstone, La.

Dunigan Tool and Supply Co., Main office, Breckenridge, Texas. Branch Stores, Willow Springs, Pampa, Turnertown, and McCamey, Texas, and Hobbs, N. M.

Okmulgee Supply Corp., Okmulgee, Okla.

Oil Field Equipment Co., San Antonio, Tex.

CHESTER

STEEL CASING AND LINE PIPE

ing this pump unit to break only a few connections. The full manifolding connections are a permanent part of the pump unit. The preheater also is built into the pump assembly.

Standard equipment for drilling at Bosco now includes full double draw works, one 14 x 14 twin drilling engine, one 12 x 12 twin drilling engine, two 18-inch slush pumps, three vibrating mud screens, and heavy-duty swivels of a new type. The second draw works and the 12 x 12 engine are used as stand-bys or auxiliary equipment. The larger drilling engine is used regularly for all drilling operations. The three steam-operated vibrating screens serve an important purpose during rapid drilling through sand and soft shale.

During extremely fast drilling the slush pumps are forced to bear the brunt of the burden. While pushing the bit through the soft shales and sand the pumps are required literally to "wash out" the hole as the rapid rotation of the bit cuts and agitates the formations. The volume of fluid carried by the pumps during rapid drilling of the upper formations is enormous.

A 17½-inch hole is drilled until the 13⅜-inch surface string is run. A 12¼-inch hole is drilled from this point to the depth at which the 9⅝-inch casing is cemented over the first oil zone at about 7850 feet. In drilling deeper from this level an eight-inch hole usually is drilled. Necessity for running only a surface string facilitates drilling operations. The formations stand up well between the bottom of the surface string and cementing point above the first oil zone. The 136-foot derricks and special engine foundations also are factors which make record drilling speeds possible. In completing Bosco wells a 20-mesh slotted pipe is being used successfully.

In less than eight months the Bosco field has become one of the most important producing areas along the Louisiana Gulf Coast. With three producing zones, and deeper producing sands a possibility, the field may be regarded a large potential producer. The producing area has not been defined fully but it already exceeds 1000 acres.

The Roanoke field, located in Jefferson Davis field, about 38 miles west of the Bosco field and 18 miles east of the Iowa field, is in many respects as interesting and important as any Louisiana coastal field. The discovery well was completed in May, 1934, by Shell Petroleum Corporation, flowing 50 barrels per hour from 8682 feet. Production is obtained from the Marginulina zone, and the field closely parallels Bosco in many respects. The Marginulina zone is found between 6636 and 7027 feet in the Iowa field, indicating a much thicker sedimentary deposit toward the east.

The producing limits of Roanoke field have not been defined, and the area further emphasizes the importance of deep reserves along the Louisiana coast. Production is obtained from a depth greater than it was possible to drill a few years ago. The upper formations are easily drilled and wells can be completed in a short time. Humble Oil & Refining Company drilled and completed Kratzer 1 as a gas well at 8830 feet in less than 3½ months.

The Louisiana Gulf Coast should be considered one of the country's most important oil producing districts for many reasons. Experience at Bosco, Roanoke and Iowa prove that deep seated salt domes along a given strip may be developed with a minimum effort and expense, once they are discovered. In many districts deep producing zones are known or suspected to exist, but it is difficult or impossible to develop them on an extensive scale. Parts of the Texas Gulf Coast represent such a condition, with heaving shale as the chief barried. The deep seated salt dome area of South Louisiana offers no development hazard, except the great expense of locating and proving indicated structures. The district should be distinctly considered as one of major importance.

EVERY TEST PROVES IT!

"LONGHORN CEMENT" MEETS ALL REQUIREMENTS FOR SAFE AND EFFICIENT OIL WELL CEMENTING

COMPRESSION STRENGTH—2x4 cylinders, 40% Water, Neat Cement

Stored in Water			Moist Air 170° F.	Steam Pressure 30 lbs.	In Steam
1 Day	2 Days	3 Days	2.5 Hours	2.5 Hours	2.5 Hours
2114	3710	4936	1357	3057	1621
2038	3774	5302	1423	2519	1796
2255	3742	5245	1376	3388	1806
2136	3742	5161	1385	2953	1741

TENSILE STRENGTH, NEAT CEMENT

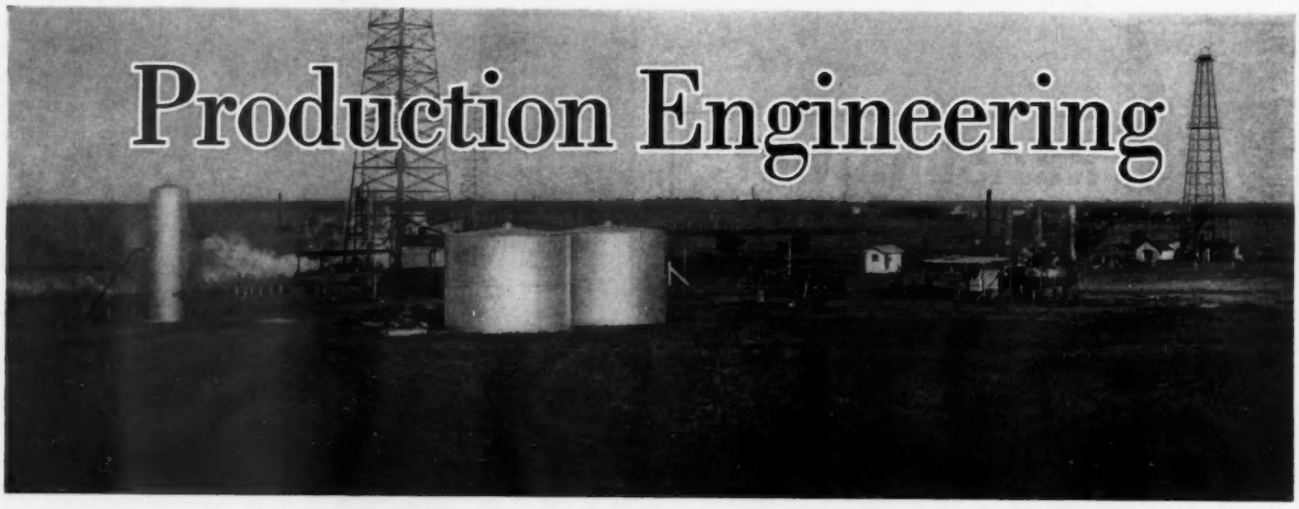
40% Water		
1 Day	2 Days	3 Days
200	380	420
175	370	415
225	385	400
200	378	412

LET US SHOW YOU HOW YOU CAN SAFEGUARD YOUR CEMENTING OPERATION AND SAVE MONEY TOO, WITH

LONGHORN PORTLAND CEMENT

REPUBLIC PORTLAND CEMENT COMPANY

SMITH YOUNG TOWER • SAN ANTONIO, TEXAS



Repressuring Experiment *In Bourbon County, Kansas* Is Interesting

Pressure Maintenance Will Be Applied to Shallow, Small Producing Property Later, Meanwhile of Interest Are Experiments in Which Oil Is Flushed From the Sands With Air

C. I. LAYTON
The Bourbon Oil Company, Garnett, Kansas

AN interesting experiment with repressuring is being conducted in one of the shoestring areas of Northeastern Kansas. It is one of the first instances, if not actually the first, where an attempt has been made to repressure flush sands in shallow, narrow fields that yield small pumping wells. Although it is still too early to definitely tell the value of repressuring flush sands, as well as the results of flushing pumping wells, some results of interest have been obtained. After the property has been more thoroughly developed it is thought that the more definite data obtainable will be of interest and importance. Particularly interesting at this time is an experiment with flushing oil from the producing sand.

The property referred to in this article is in Bourbon County, Kansas, and extends diagonally northwest through the corner of Allen County into Anderson County. The property, when purchased in August, 1933, by The Bourbon Oil Company, consisted of 16 oil wells that were five to seven years old. Seventeen oil wells have been completed by The Bourbon Oil Company since acquiring the property. These wells have extended the producing limits of the shoestring field about one mile.

The Bourbon County shoestring is three locations, or about 750 feet wide, and, in order to determine its course, only one location has been drilled at a time.

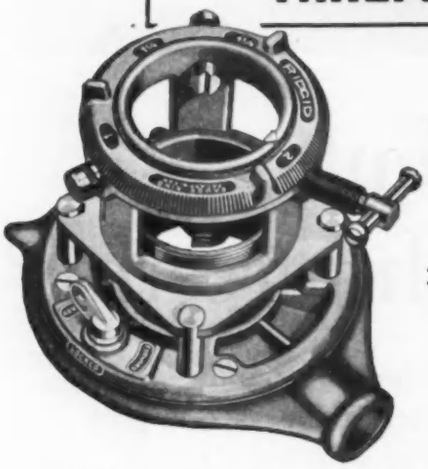
Due to this sort of development, which makes repressuring with air or gas difficult, little has been accomplished in attempting to maintain a pressure on the newly drilled wells, although one of the first things done by The Bourbon Oil Company upon acquiring the property was to set a compressor for the purpose of trying to maintain the original pressure on the sand. This has been successful only in parts of the field, where it is possible to introduce the proper volume with the present equipment, as the sand requires a higher pressure than was anticipated originally. But it is hoped that the practice of pressure maintenance may be applied soon. However, this will be delayed until the shoestring property is fully developed. After this has been accomplished, the producing area will be five spotted for air wells.

At present a flushing process is being used to bring the oil from the producing wells. This method is unusual and has created considerable interest among operators in the district, and also is applicable in other regions having similar conditions.

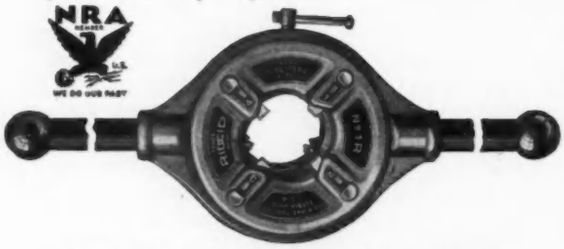
In the older portion of the field, one well was selected and prepared for pressure. It began taking a satisfactory volume at 80 pounds, which gradually built up to 275 pounds. In three weeks time, the wells surrounding this key well had increased their production 125 percent and that increase is being maintained now. An interesting feature of this property operation is found in building up a pressure on the producing well for a period of time, and then suddenly releasing the pressure. The air rushing back out of the sand brings the oil with it, and very satisfactory results are being obtained through this method.

This result was first noticed on a well that had been taken for a pressure well. The well was producing 0.75 barrels of oil per day when selected and prepared for pressure intake. It took a good volume of air to commence with, but the pressure kept building up until it was higher than that which the compressor unit was capable of operating at efficiently. Consequently, the pressure was released, and tubing and rods run in the well. It pumped 15 barrels the first day, for the next few days it pumped nine barrels. During the first 30 days it

7 REASONS WHY You'll Like The New RIDGID POSTER THREADER



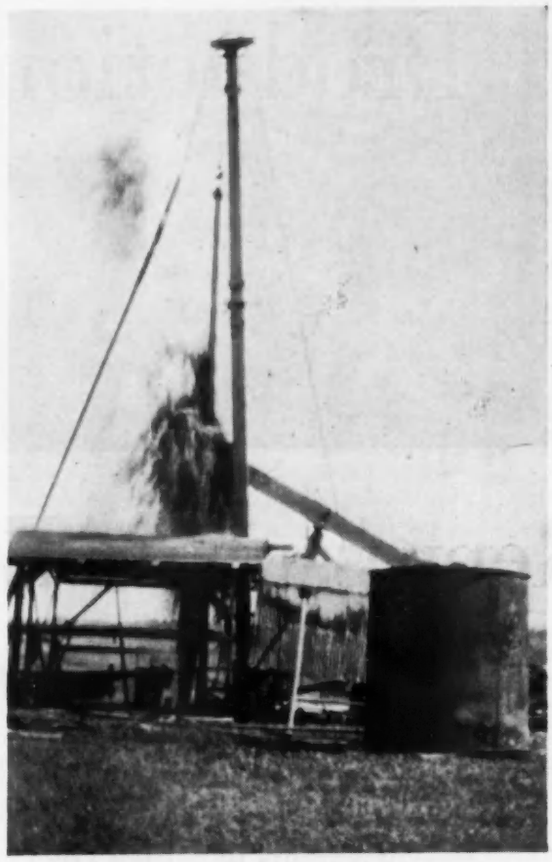
1. Direct drive over chasers—no wobble, greater precision.
2. Full-floating posts carry no load, simply taper threads. Not riveted, easily replaced.
3. Chaser locks enclosed—can't be damaged.
4. Ratchet lever snaps into exact position. Sets at "Locked" position for solid die.
5. Workholder sets to size mechanically—put on pipe, tighten with one screw.
6. Alloy tool steel chasers interchangeable—fit any poster type threader.
7. Tool weighs only 12 lbs. Rugged strength, rustproof, no sharp edges.



No. 1R, 1″ to 2″, 4 sets of chasers, 1 or 2 handles. No. 1, plain die, 1″ to 2″, 4 sets of chasers, 2 handles. There are now 11 threaders in the complete line, meeting all needs to 2″ threading. Ask your supply store or write for catalog.

THE RIDGE TOOL CO., Elyria, Ohio, U. S. A.

RIDGID PIPE TOOLS



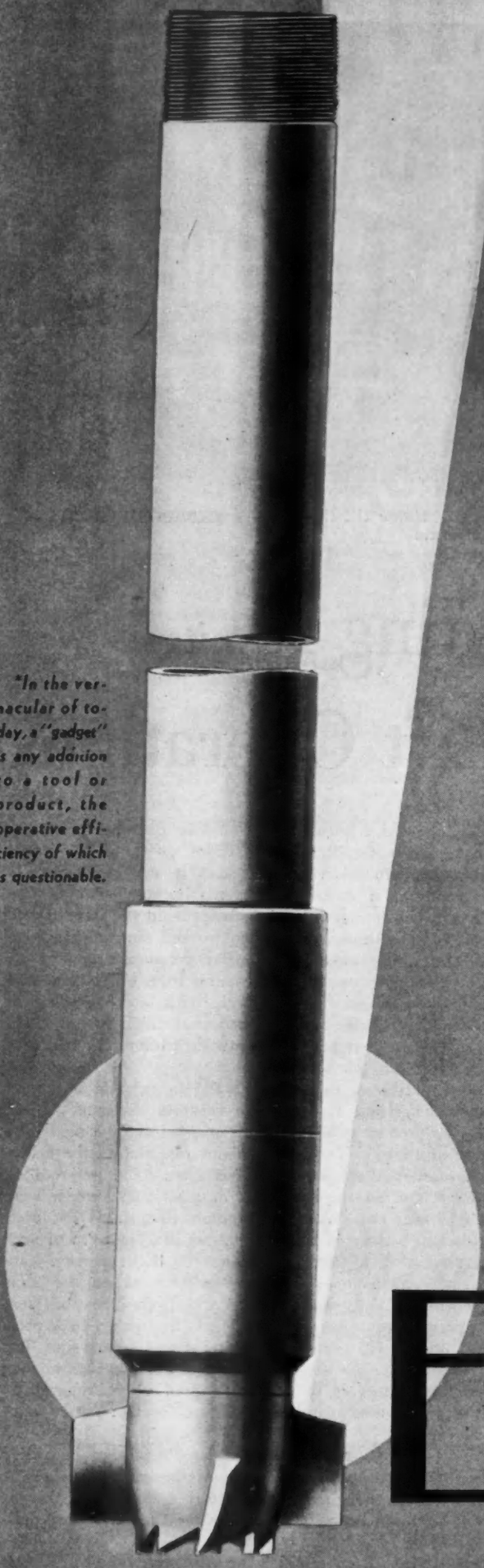
Bourbon Oil Company's Davis 14 flowing after being shot. The well had an initial output of 140 barrels.

averaged six barrels. Althrough it has had only one injection of air and that 10 months ago, the well still is producing two barrels daily. During this 10-month period this well has produced 729 barrels, whereas it would have produced but 237½ barrels if air injection or flushing had not been applied. To say the least, this increase of 491 barrels is a very good result, especially considering the amount of air and time involved. By means of an orifice meter, the air going into the well was measured, and approximately three quarter million feet was injected before being released.

This experiment has been carried on to a certain extent in six other producing wells, two of them being wells completed in the past year. While results were not as satisfactory on newer wells, a greater percentage of oil was recovered in a shorter length of time. It is possible that after the property has been fully developed more time and attention will be given to this part of the repressuring experiment. It is believed some interesting and valuable information will be derived through this method.

The 17 new oil wells drilled in this shoestring pool have an average sand thickness of 40 feet, and an average initial production, after being shot, of 105 barrels per day. Very little gas is found with the oil, which causes the wells to decline rapidly from their initial recovery to an output between five and 10 barrels per well per day at the end of four to eight months time.

This shoestring pool produces from the Bartlesville sand found at 600 feet, which is exceedingly satisfactory from a development standpoint as it is possible to drill, case, shoot and put a well to pumping for $1000 under present conditions.



Gadgets vs. Safety in a core drill

"In the vernacular of today, a "gadget" is any adaition to a tool or product, the operative efficiency of which is questionable.

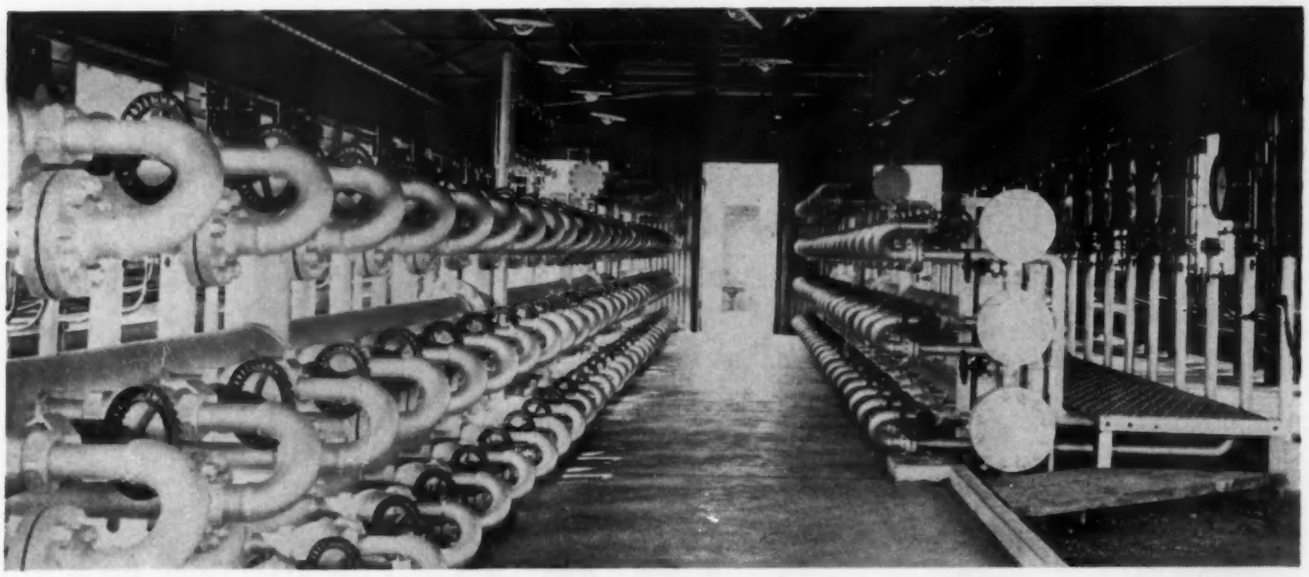
In the selection of a core drill do you give sufficient consideration to the factor of safety? Recently there has been a marked tendency toward the introduction of "gadgets"* in mechanical devices... gadgets which may or may not add to the value of the tool. When such a gadget in a core drill tends to weaken it, or sacrifice safety in any degree, it ceases to be a harmless addition thereto and immediately becomes a definite menace to the safety of the entire drilling procedure.

Safety is eminently essential in coring operations. With full knowledge of its importance, Elliott has steadfastly refused to incorporate any features in the design or construction of Elliott Core Drills that would sacrifice the high factor of safety essential in coring service.

Elliott records of recovery are unsurpassed in the service for which they are intended. Of equal importance is the fact that Elliott Core Drills are as safe to run in the hole as correct design, fine materials, and precision manufacture, with a background of more than twelve years of intensive coring and core drill manufacturing experience, can make them.

ELLIOTT CORE DRILLING COMPANY
4731 East 52nd Drive, Los Angeles, California, U.S.A.
Export Office: 525 Graybar Bldg., New York City

Elliott ROTARY AND CABLE TOOL **CORE DRILLS**



Controls in the gas lift header control room. Union Oil Company, Santa Fe Springs, California

System of Manifolding *Permits Control of* Gas Lift Operations

Union Oil Company Takes Advantage of All Existing Gas and Uses Four Separate Pressure Supply Systems That Converge Into One Control Room

JOHN C. ALBRIGHT

UNION Oil Company is applying a gas-lift method in the Santa Fe Springs field of California that in many respects is quite different from conventional practices. The difference is in the manner in which wells are choked, traps are set, the use of gas pressure originating from certain classes of wells; all of which are tied together by means of an unusual manifold system.

When the Santa Fe Springs field was discovered and for a considerable period thereafter, all wells produced oil by natural action of the reservoir pressure and gas volume. Drilling became intensive and many wells were spaced with the legs of the derricks almost locking in several sections. Because of this condition, the reservoir pressure diminished rapidly thereafter. In other sections of the field, wells were drilled with wider spacing, and completed in a more porous and thicker zone. These wells flowed naturally over a longer period of time.

Drilling at Santa Fe Springs was conducted with usual systems, and Union Oil Company made no effort to complete any wells differently from those drilled by other companies. When gas lifting was under consideration for producing oil from those wells that had ceased to flow, Union Oil Company engineers advised a system that could be operated profitably with a minimum installation expenditure.

Certain wells in this field, as elsewhere, can be kicked off more readily than others. Some require a smaller volume of gas with lower input pressure to maintain the desired rate of flow. Consequently, the system worked out was designed to take advantage of the higher gas pressure coming from some wells and to use the gas coming from others that had performed its proper function, but could be received from the separators with a pressure sufficiently high that it could be employed as input gas in other wells without the necessity of passing it through compressors.

Several classes of wells were found to exist in Santa Fe Springs, comprising roughly five separate divisions. Some wells were producing both oil and gas, but the gas had little or none of the desirable hydrocarbons essential to the manufacture of natural gasoline. Another class could be produced with a vacuum on the traps that included those which were profitable to pump. Another division comprised that class of wells which could be operated by gas lift, but were of such a character that a minimum amount of back pressure (approximately 30 pounds), could be maintained on the traps and controls. Wells placed in the fourth classification were producers that could be operated by gas lift with a back pressure of around 140 pounds on the traps and separators. The fifth class comprises wells which were flowing naturally by the original reservoir pressure, or could be maintained on production with a comparatively high back pressure, 200 pounds and above.

Single trapping, or the use of a single separator, is applied to the first two classes of wells, because invariably the flowing pressure is low enough that satisfactory separation of the gas from the oil can be accomplished in this manner. Low pres-

sure wells in this system are produced with a vacuum on the outlet of the single trap, or those which are classed as wells producing extremely lean gas, and which are produced with a back pressure below 30 pounds. In the first instance, the gas coming from the producing zone with the oil contains considerable of the hydrocarbon fractions that makes it desirable as a medium for gas lifting and in the manufacture of natural gasoline. No stripped residue gas, or dry gas from the first class of wells is used in this system, and only the excess amount above the gas lifting requirements is processed through the absorption plant. Once the gas has been processed through the extraction plant, the residue is introduced into the fuel system to be consumed in the field or piped elsewhere.

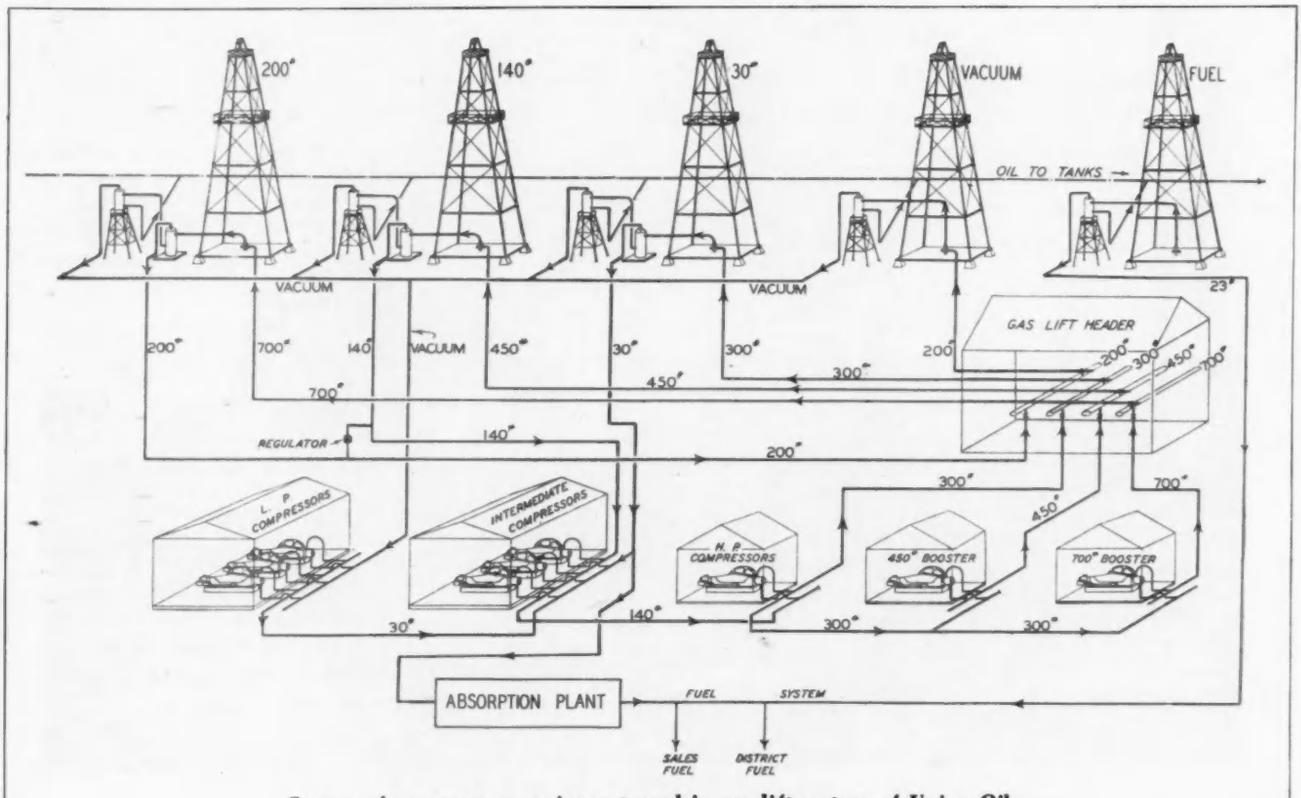
A system of double traps is employed in the production of oil and gas coming from the third, fourth and fifth classes of wells. These traps are arranged in a similar manner with the primary or high pressure unit placed on the ground level. The secondary traps are all elevated above the ground level, either on steel towers near the well or on a platform built onto and comprising a part of the derrick. The primary traps receive the oil and gas from the tubing or casing, as the case may be, under a working back pressure that will permit the particular well to produce the volume of oil permitted under proration regulations. Input volume is regulated in relation to the productive ability of the wells, and the back pressure maintained on the primary trap is such that the well flows continuously at a rate that will permit the required amount of oil to be produced to meet the state umpire's regulations.

Oil flowing from the primary trap to the secondary is controlled by liquid level controls that drop the pressure maintained on the oil and dissolved gas so that when the oil and gas enters the secondary separator, the gas may be removed through the compressor plant gathering lines. The oil flows from the secondary separator, or trap, to the lease battery flow tanks, which are also gas tight. The oil from the single trap systems flows to the batteries by head pressure as it does from the secondary traps on the double system because of the elevated position which permits transfer by gravity.

In the present set-up of the system at Santa Fe Springs, the bulk of the gas used for gas lift is handled through compressors to obtain the necessary pressure. Five separate stages are employed, several of which are handled through a main central engine room, but the comparatively high pressures are maintained through the operation of detached booster stations set in various parts of the field. All of the gas released from the oil in the secondary traps and that from the wells operated under pressures below 30 pounds, is transmitted through the compressor station gathering lines to the low-pressure compressors. This bank of units in turn boost the gas to the intake of the intermediate compressors, through adequate atmospheric cooling sections. The intermediate compressors place a pressure of 140 pounds upon the gas which is designated to be returned to the field for gas lift. The surplus above the requirements is processed under the low-pressure compressor discharge through the absorption plant. The gas from this unit is placed in fuel lines to be consumed in the field and elsewhere.

As the system was designed and adapted to wells requiring an input pressure above the discharge of the intermediate compressor units, the gas from them is cooled again and enters the high-pressure section of engines. From the discharge of these units, the gas moves in two directions, one of which is to the 450-pound and the 700-pound detached booster stations, and the other is to the gas-lift header direct without intercooling. Four main lines lead to this distribution header, located approximately in the center of the groups of wells produced by gas lift.

These four main lines were laid at right angle to the gas-lift header building, which contains the switching apparatus,



Set up of compressor equipment used in gas lift system of Union Oil Company at Santa Fe Springs, California

the pressure recorders and the meters that measure the gas to each well. The distributing section of the gas-lift header equipment for convenience is divided into two units, one on each side of the building, so that the lines leading to the individual wells can be laid in an approximate straight line. Each unit is composed of four main pressure headers that are connected to the main supply lines leading from the compressors and the pressure wells.

The high-pressure compressors discharge the gas directly through the 300-pound supply line to the header where it is distributed to its corresponding take-off line entering the header building. The 450-pound and the 700-pound discharge also is led directly while hot from compression to the gas-lift header and the gas from the wells which have a relatively high producing back pressure is also led to this point. This arrangement provides four separate pressure supply systems converging into one control room. These take-off lines, four in number, extend the necessary length through the control room, stacked one above the other. High-pressure master gates were placed on each take-off line just outside the building, and by-passes also were placed between the take-off headers so that either of the four pressure systems can be directed from the supply lines directly to the take-off header.

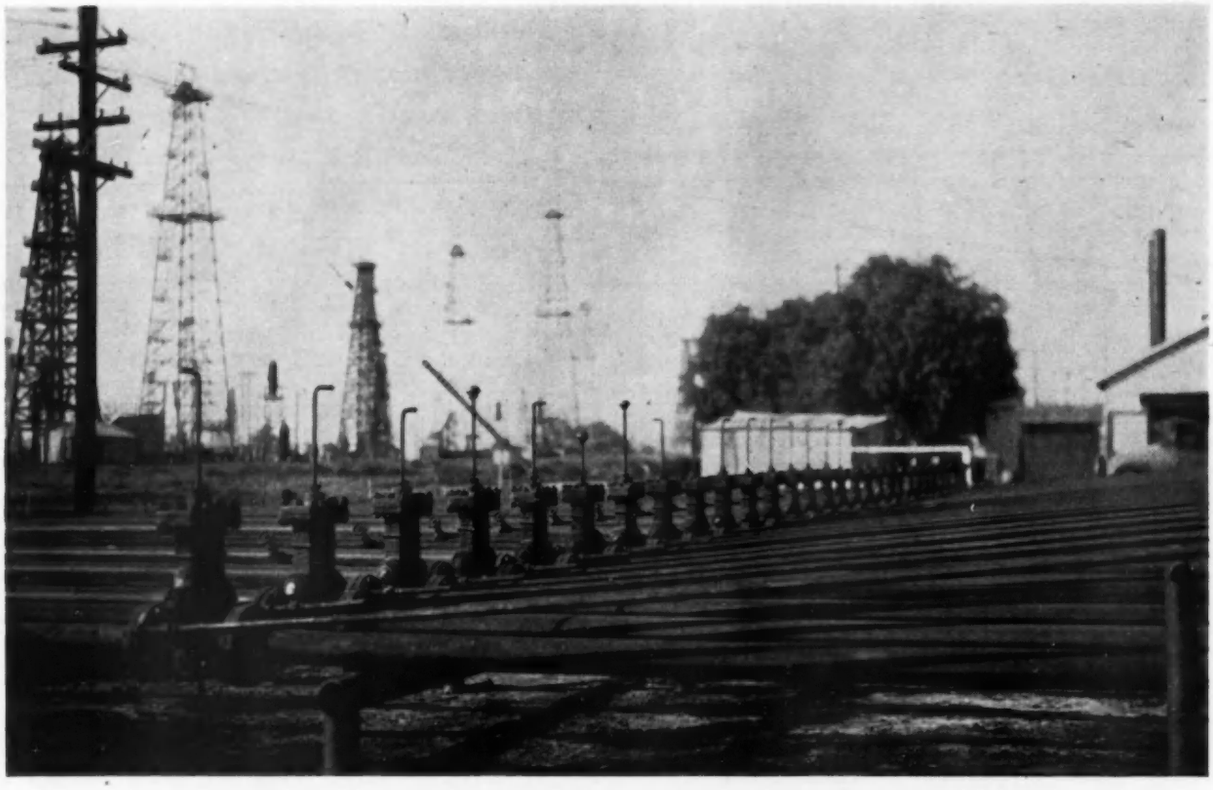
Short vertical headers were placed directly behind the take-off headers and connected at the lower end to the individual gas line leading directly to the well. Connections, angle control valves and flanged unions all are on the aisle side of the take-off headers. These were welded to the take-off header, and continuing through return bends, were connected to the short vertical header standing behind the take-off headers. Each line leading to the wells in the field is fitted in a similar manner, so that the operator of the gas-lift header station can direct the gas to the individual well. In addition to the connection from one take-off header, all take-off headers are connected to the short vertical one standing behind. This system of manifolding, in addition to the by-passes outside the control room, enables the operator to switch any pressure to the well, and if a group of wells on a certain header should be converted from one pressure to another, the by-passes outside can be controlled to provide the necessary pressure.

The individual lines leading to the wells are banked outside the control room, a bank on each side, placed on pipe racks which provide working room at the orifice meter fittings. The banks are sloped gently from the outlet at the building to the point where the lines are buried in the ground. This slope provides adequate drainage for any moisture or condensation coming from the supply lines, regardless of the source of the gas, to flow with the gas into the buried lines. Sloping also prevents pocketing of moisture on the up stream side of the orifice plate. Each line to the individual well is equipped with an orifice meter with the static and differential recording gauges placed inside the control building.

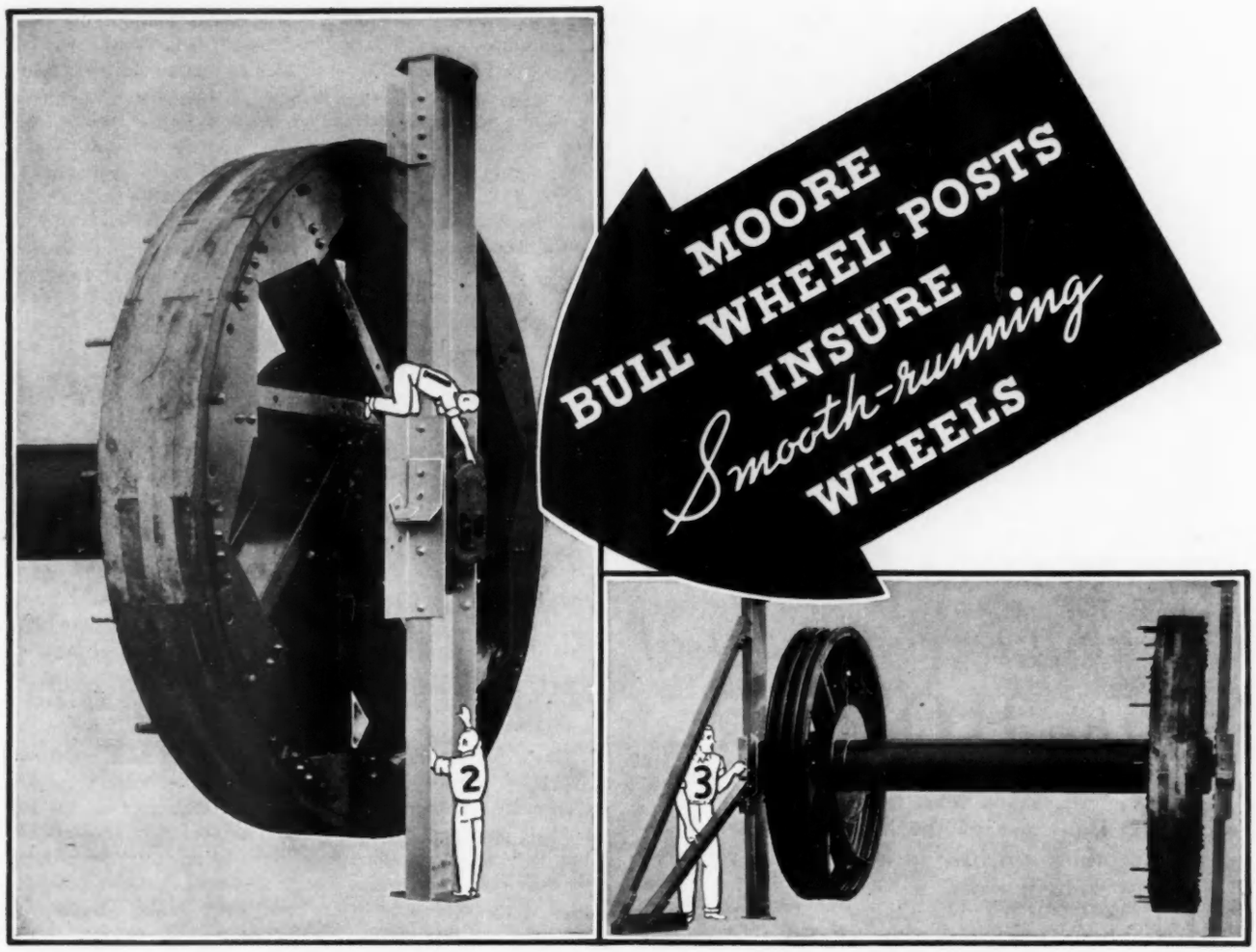
The static and differential lines leading from the orifice fittings to the recorders also are sloping, and are connected to the orifice fitting on the side instead of at the flanges.

In addition to the individual meters placed on each line leading to the field, static recording instruments were connected to each of the take-off headers. To make the instruments accessible, safety steel walks were placed in the aisles between the take-off header banks and the row of recording orifice meters. As each meter recorder is placed directly behind the vertical header and control valves of the individual lines, the operator need not go behind the take-off header banks except to change charts.

In the operation of this system, gas is received from the field through the vacuum gathering lines to the low-pressure compressors which boost the pressure to the next stage. After it passes through the successive intermediate, high-pressure and



Bank of meter flanges on individual lines to the wells from the gas lift header. Union Oil Company, Santa Fe Springs, California



The self-aligning bearings (1) in Moore Posts, by compensating for irregularities in bull wheel construction, give a smooth running wheel at all times. Bearings can be furnished to fit any size of gudgeon. They are of the spherical type, permitting alignment in all planes without heavy wear of the bearing surfaces. The ends are closed to keep out dirt and grit. The elimination of fire hazards is another important factor in the use of these steel posts. They are made of 13" car channels (2) having a 4" extra heavy flange, and are effectively reinforced (3) and braced.

The Moore Bull Wheel has channel spokes securely attached to the shaft by wing plates that are both riveted and welded. The patented tug rim is rolled in one piece, with either double or triple V grooves. Shafts are of extra heavy welded pipe—either ½" or 1⅛" thick—with gudgeons shrunk and riveted into place.

LEE C. MOORE & COMPANY, INC.
TULSA—PITTSBURGH
Dallas Houston Henderson Kilgore Longview Midland Odessa Pampa Wichita Falls, Texas; McPherson Wichita, Kansas
Stocks in all active fields

You will profit by investigating Moore modernized, proven equipment.

Moore PUMPING Equipment

STEEL DERRICKS SINCE 1908

DERRICKS · SUBSTRUCTURES · HANGERS · WALKING BEAMS
SAMSON POSTS · JACK POSTS · BULL AND CALF WHEEL POSTS
WHEELS · PITMANS · IMPROVED BEARINGS · CROWN BLOCKS
PORTABLE PUMPING UNITS · CLEAN-OUT MACHINES · WINCHES

..Learn the truth about every part of the HOLE...

Daily use of the SYFO Clinograph enables a driller to control direction . . . and cut costs.

SYFO records the slightest deviation from the vertical *throughout* drilling progress. Tests are quickly and easily made without the use of dangerous acids. Records are permanent records that can be filed for future reference. Daily use of SYFO tells the truth about every part of the hole . . . insuring a deviation of less than 1° from the vertical throughout the entire operation.

Write for descriptive literature and rates. Also makers of the Surwel Clinograph.

Sperry-Sun Well Surveying Co.

1608 Walnut Street Philadelphia, Pa.

HOUSTON, TEXAS
3118 Blodgett Avenue

TULSA, OKLAHOMA
402 Petroleum Building

TYLER, TEXAS
Peoples National Bank Building

LOS ANGELES, CALIF.
415 Petroleum Securities Bldg.

Sectional view of a SYFO Clinograph

SYFO CLINOGRAPH

(U. S. Patent 1,962,634 and others pending)

detached boosters in the field, the gas, under 700 pounds, is delivered to the gas-lift header control room. While it is being compressed in the system, part of it is taken off at 300 pounds, and another part removed at 450 pounds. This gas, by-passed from the intake of the higher-pressure engine rooms, is led through its supply line leading also to the header control room. Gas from the high-pressure wells, or from those that can be operated with a 200-pound back pressure on the primary trap, also is led through its supply line to the gas-lift header.

Gas from the 700-pound header is applied to the wells in the system that require high pressures to operate, them, or that can be produced with a back pressure in excess of 200 pounds. Pressure from this header also is used to "kick-off" any of the wells that do not respond to lower pressures. The gas from the 450-pound header is directed to that class of well that will produce their allowable with a back pressure of about 140 pounds, while the 300-pound and the 200-pound headers have their gas directed to the wells that flow with a back pressure of about 30 pounds, or at a vacuum on the trap, or oil and gas separator.

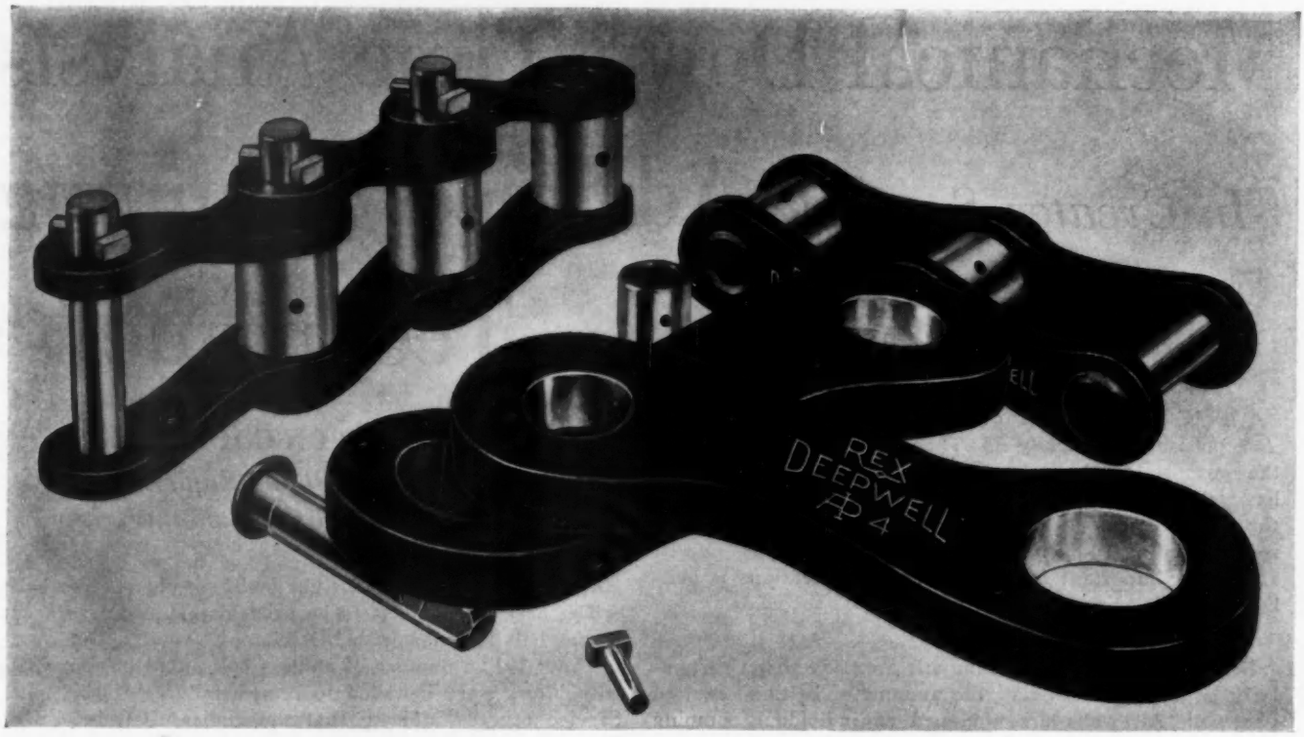
The gas from the wells flowing under a back pressure of around 200 pounds on the primary trap is led back to the gas-lift header to be recycled without compression through the engine rooms. If there is an excess of this gas above the requirements to flow the low back-pressure wells, part of it is passed through an adequate regulatory so that it can enter the lines leading from the discharge of the intermediate compressors, passing with the compressed gas to the high-pressure compressors.

Gas from those wells that are held to a back pressure of about 140 pounds also is removed from the primary traps and transmitted through pipe lines to the discharge of the intermediate compressors. This method of operation prevents handling the gas more than is necessary to procure adequate pressures, either for flowing the wells or to make it possible to pass it to the proper compressor stage intake. None of the gas used in either the gas-lift operation or the gasoline recovery plant is handled through the low-pressure compressors that will pass to the next stage, or recovery unit under its own well pressure. Gas that must be received from the traps at the wells, or from the secondary separators, is all that passes through the low-pressure compressor cylinders, the discharge of which is tied in with the intake of the intermediate compressors.

Gas from the wells that are produced with a 30-pound back pressure also is directed to the intake of the intermediate machines. If there is an excess of this 30-pound gas above the requirements of the gas-lift system, it is released through regulators to the intake of the absorbers and processed for its available gasoline. No gas is recycled that has been stripped of its natural gasoline, because, it is said, wet gas performs better as a lifting medium than dry, or processed gas. It is applied to the wells as hot as possible without final cooling to assist in preventing the accumulation of wax in the tubing and on the face of the producing zone.

Continuous operation of the wells in all the class divisions is practiced by Union Oil Company. After a well has been "kicked-off" the proper volume and pressure is directed to it continuously. The control of the output of the wells is accomplished at the primary traps, sufficient back pressure being held on the individual well so it will not exceed its allowable production.

By careful study, the wells have been placed in the proper classification so it can be operated at a minimum amount of pressure and volume of input gas. By holding the maximum required back pressure and by flowing them steadily and continuously, this company has not found it compulsory to stop cock or speed up the flow from any individual well to produce the allowable from the field.



GET THOSE SIDEBARS! *in* REX DEEPWELL

SIDEBARS of alloy steel, heat treated, are die cut, giving the distribution of metal that produces the greatest strength for the least weight—most important in a chain operating at high speeds. The pin and bushing holes are machine finished and have no sharp notches that start failure under shock loads.

FINALLY, THEY ARE COMBINED with those other precision finished parts into the Rex Unit Link assembled by the powerful controlled force of hydraulic pressure. Proper heavy force fits are produced at every desired point, but without any pinching to tighten up the chain at any working surface in—

THE GREATEST CHAIN THAT EVER HIT THE OIL FIELDS

REX DEEPWELL—3 AND 4

A Product of **CHAIN BELT COMPANY**

1639 WEST BRUCE STREET, MILWAUKEE, WIS.

ALSO MANUFACTURERS OF REX CHABELCO 1033 • REX CHABELCO 1244

Distributors

MID-CONTINENT AND GULF COAST DISTRIBUTORS

Decker Tool & Supply Co.
Frick-Reid Supply Corp.
Lucey Products Corp.
Murray-Brooks Hardware Co., Ltd.
Norvell-Wilder Supply Company
Rex Supply Company

CALIFORNIA DISTRIBUTORS—The Republic Supply Co. of Calif.

EXPORT

Chain Belt Co., Chrysler Bldg., New York
Lucey Export Corp., Woolworth Bldg., New York
William E. Knight, 2-3 Norfolk Street, Strand
London, W. C. 2, England

© C. B. Co., 1934

Mechanical Down Time Analysis *In Greater Seminole* Advances Pumping Technique

ARTICLE III
Belting

I. F. BINGHAM
Professor, Petroleum Engineering, University of Oklahoma

ARTICLES I and II of this series, which have been published previously in The Oil Weekly, set forth the purpose of the paper, established certain necessary basic principles in making a study of mechanical down-time, and discussed difficulties experienced with sucker rods, including rod corrosion.

Another important factor in pumping operations is belting.

Belting

Belting problems in the Seminole area have been particularly important because of the amount of belting required per well. All wells are equipped as individual pumping units. A typical installation includes a 14-inch, seven-ply belt for the band wheel; a 12-inch, seven-ply belt from engine to countershaft; and eight inch, six ply reverse belts.

The first type of belt to be used in this area was a cut-length belt fastened with belt clamps.

About 1930 a number of endless belts used in connection with idlers were installed to reduce failures at the splice. Service records indicate that the endless belt is entirely satisfactory in principle. Some unsatisfactory results were to be expected in view of the fact that failures were almost

TABLE 4

SUMMARY BELT DOWN TIME

Fourth Quarter 1929 to Fourth Quarter 1933, Inclusive
All Makes—Drive or Band Wheel Belts (Endless Belts Included)—(Long Belts)

QUARTER	No. in Service	Cut	Splice	Break	Clamp	Miscellaneous	Total
4th, 1929	334	310	108	122	24	127	696
Average per well, per quarter	...	0.93	0.32	0.37	0.72	0.38	2.08
1st, 1930	346	324	70	223	50	118	785
Average per well, per quarter	...	0.94	0.20	0.65	0.14	0.34	2.27
2nd, 1930	334	394	62	144	62	84	746
Average per well, per quarter	...	1.18	0.19	0.43	0.19	0.26	2.23
3rd, 1930	343	250	96	77	115	53	590
Average per well, per quarter	...	0.73	0.28	0.22	0.34	0.15	1.72
4th, 1930	341	113	29	48	55	5	250
Average per well, per quarter	...	0.33	0.08	0.14	0.16	0.01	0.73
1st, 1931	329	151	24	199	74	29	478
Average per well, per quarter	...	0.46	0.07	0.62	0.23	0.09	1.45
2nd, 1931	331	151	72	180	50	26	480
Average per well, per quarter	...	0.45	0.22	0.54	0.15	0.08	1.45
3rd, 1931	336	190	58	266	62	19	595
Average per well, per quarter	...	0.57	0.17	0.79	0.18	0.06	1.77
4th, 1931	331	120	77	91	31	43	482
Average per well, per quarter	...	0.36	0.23	0.27	0.09	0.13	1.45
1st, 1932	362	151	....	175	36	36	398
Average per well, per quarter	...	0.42	....	0.48	0.10	0.10	1.10
2nd, 1932	365	223	22	175	29	10	458
Average per well, per quarter	...	0.61	0.06	0.48	0.08	0.03	1.26
3rd, 1932	358	216	36	242	38	7	540
Average per well, per quarter	...	0.60	0.10	0.68	0.11	0.02	1.51
4th, 1932	374	77	7	312	26	34	456
Average per well, per quarter	...	0.21	0.02	0.83	0.07	0.09	1.22
1st, 1933	377	55	31	298	26	24	434
Average per well, per quarter	...	0.15	0.08	0.79	0.07	0.06	1.15
2nd, 1933	384	250	10	314	24	19	617
Average per well, per quarter	...	0.65	0.03	0.82	0.06	0.05	1.61
3rd, 1933	384	113	5	509	53	17	696
Average per well, per quarter	...	0.29	0.01	1.32	0.14	0.04	1.81
4th, 1933	374	139	10	67	31	17	264
Average per well, per quarter	...	0.37	0.03	0.18	0.08	0.05	0.71

necessary in order to point the way to better belt construction.

Cut-length belts are fastened at the ends by one of several types of belt clamps. These belts have given more or less satisfactory service depending upon construction of belt and clamp, and upon observance of the following rules for care and installation of cut-length belts.

1. Keep belt house in good repair. Water from leaks will cause belt to slip upon pulleys and burn.

2. For belt installations: Tape around the band wheel and pulley to determine the length of belt needed. Cut rubber belt 1½ feet short and canvas or hair belt 2½ feet to three feet short. This practically takes up the initial stretch and eliminates the first two or three belt jobs. It has been demonstrated that this practice is not harmful to the respective belts and that this much stretch may be accommodated without causing the bearings to run hot.

3. Do not clamp belts together and spike onto pulleys, place belting around pulleys and draw together with belt stretcher.

4. Select a type of belt clamp that will minimize bending stresses or pinching as the clamp passes over the pulley.

5. When necessary to cut out a section of belt insert a splice length, use new belting for the splice length. Service records indicate that a splice length of old belting seldom gives satisfactory service.

6. Keep belt surface of band wheel smooth and regular at all times.

7. Be sure that band wheel belt surface is amply wide to accommodate the width of belt installed so that belt will not overlap edge of band wheel. Overlapping produces premature failure of the belt just inside the edge of the belt. Proper alignment may accomplish this or it may be necessary to build up surface width of band wheel.

8. Keep pulley surfaces clean and free from accumulations of dirt.

9. Select belt of sufficient width and number of ply to accommodate the load where installed. Maximum polish rod loads vary from 8000 pounds to 20,000 pounds in this area.

10. When an old belt is no longer satisfactory for a heavy well transfer to a light well where it may continue to give satisfactory service for several months or a year. This practice also furnishes an outlet for overstretched endless belts.

In making a selection of endless belts it is important to consider in addition to material and construction, two types of elongation. Elastic elongation within reasonable limits is an asset in that it permits the belt to accommodate shock loads and constantly varying condition. Non-elastic elongation, however, shortens the period of satisfactory service for the endless belt because it hastens the time when the idler will no longer accommodate the stretch in the belt for the particular installation. A 12-inch by 45-foot, seven-ply endless belt (engine to countershaft) was installed at L10. After 23 months service this belt showed only 2 inches non-elastic elongation. Another make of 14-inch x 101-foot, seven-ply endless belt was installed at D3. After 10 months service it showed 54 inches non-elastic elongation.

Where endless belts are installed it is essential to use

TABLE 5

SUMMARY BELT DOWN TIME

Fourth Quarter 1929 to Fourth Quarter 1933, Inclusive
All Makes—Drive or Band Wheel Belts (Endless Belts not Included)—(Long Belts)

QUARTER	No. in Service	Cut	Splice	Break	Clamp	Miscellaneous	Total
4th, 1929	317	310	108	122	24	127	696
Average per well, per quarter	...	0.98	0.34	0.38	0.08	0.04	2.20
1st, 1930	307	324	46	223	50	118	761
Average per well, per quarter	...	1.05	0.15	0.73	0.16	0.38	2.48
2nd, 1930	288	394	53	144	62	84	737
Average per well, per quarter	...	1.37	0.17	0.50	0.22	0.29	2.56
3rd, 1930	290	250	84	77	115	53	518
Average per well, per quarter	...	0.86	0.29	0.26	0.40	0.18	1.99
4th, 1930	288	113	29	48	55	5	250
Average per well, per quarter	...	0.39	0.10	0.17	0.19	0.02	0.87
1st, 1931	274	151	....	199	74	29	454
Average per well, per quarter	...	0.55	....	0.73	0.27	0.10	1.66
2nd, 1931	276	146	65	180	50	26	468
Average per well, per quarter	...	0.53	0.23	0.65	0.18	0.10	1.70
3rd, 1931	278	190	58	266	62	19	595
Average per well, per quarter	...	0.69	0.20	0.96	0.22	0.07	2.14
4th, 1931	269	120	65	91	31	43	470
Average per well, per quarter	...	0.45	0.24	0.34	0.12	0.16	1.75
1st, 1932	302	151	....	175	36	....	362
Average per well, per quarter	...	0.50	....	0.58	0.12	....	1.20
2nd, 1932	305	223	22	175	29	....	449
Average per well, per quarter	...	0.73	0.07	0.57	0.10	....	1.47
3rd, 1932	295	216	36	242	38	....	557
Average per well, per quarter	...	0.73	0.12	0.82	0.13	....	1.89
4th, 1932	312	77	7	312	26	....	422
Average per well, per quarter	...	0.25	0.02	1.0	0.08	....	1.35
1st, 1933	312	55	31	298	26	....	410
Average per well, per quarter	...	0.19	0.1	0.95	0.08	....	1.32
2nd, 1933	319	250	10	314	24	....	598
Average per well, per quarter	...	0.78	0.03	0.98	0.08	....	1.87
3rd, 1933	319	113	5	509	53	....	679
Average per well, per quarter	...	0.35	0.01	1.59	0.16	....	2.12
4th, 1933	310	139	10	67	31	....	247
Average per well, per quarter	...	0.45	0.03	0.22	0.10	....	0.80

an idler. Most of them are satisfactory. Some possess distinctive features of maintaining uniform belt tension under varying atmospheric and operating conditions.

There are a number of satisfactory makes of belts and idlers. Recommendations for purchase should, as with most pumping equipment, be based upon initial cost and service records. It is very hazardous to base recommendations upon design, construction and claims. The ultimate test before giving important orders should be performance at the well. Responsible manufacturers have been quick to realize this and consequently have adopted the practice of subjecting new equipment to rigid field tests.

What has been said concerning care of cut-length belts will apply in a general way to care of endless belts.

Table 4 is a summary of all long or drive belt down time including endless belts. Here mechanical downtime is allocated to the following defined causes:

"Cut" removing a section from a belt which is too long.

"Splice," adding a section to a belt which is too short.

"Break," the term is self explanatory.

"Clamp," making repairs on clamp.

"Miscellaneous," any repair service in connection with belts which can not be charged directly to one of the four classifications above. Miscellaneous for this table also includes idler adjustment for the endless belts which are included in this table.

Table 5 is a summary of all long or drive belt downtime, not including endless belts. It will be observed that the downtime for this table is somewhat higher than for Table 4.

Table 6 is a summary of all endless long or drive belts.

Table 7 is a summary of all engine to countershaft belts.

Figure 8 presents a graphic picture of belting downtime. Curve (1) shows downtime for all drive belts except endless belts.

Curve (2) in Figure 8, shows downtime for all drive belts including endless belts and falls sligtly below curve (1).

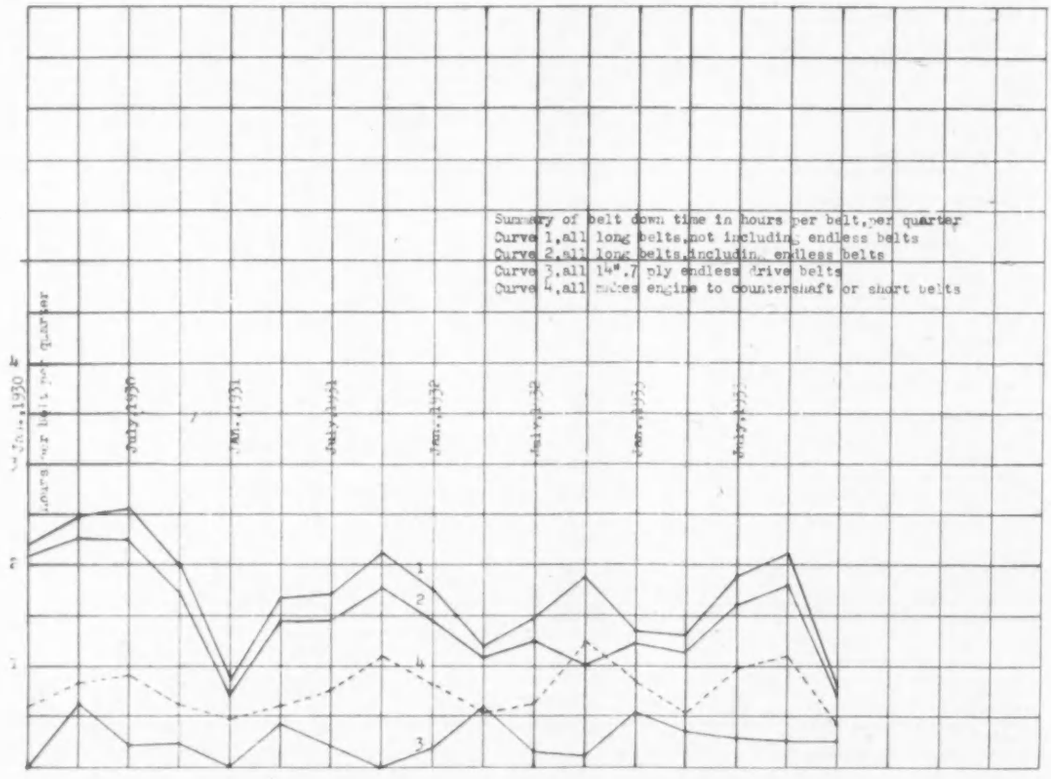
TABLE 6

SUMMARY BELT DOWN TIME

Fourth Quarter 1929 to Fourth Quarter 1933, Inclusive
All Makes—14-inch, 7-ply Endless Belts

QUARTER	No. in Service	Change Belts	Adjusting Idler	Total
4th, 1929	17	....	....	....
Average per well, per quarter	..	....	....	....
1st, 1930	38	....	24	24
Average per well, per quarter	..	....	0.63	0.63
2nd, 1930	46	....	10	10
Average per well, per quarter	..	....	0.22	0.22
3rd, 1930	53	....	12	12
Average per well, per quarter	..	....	0.23	0.23
4th, 1930	53	....	....	....
Average per well, per quarter	..	....	....	....
1st, 1931	55	....	24	24
Average per well, per quarter	..	....	0.44	0.44
2nd, 1931	55	5	7	12
Average per well, per quarter	..	0.09	0.13	0.22
3rd, 1931	58	....	....	....
Average per well, per quarter	..	....	....	....
4th, 1931	62	....	12	12
Average per well, per quarter	..	....	0.19	0.19
1st, 1932	60	....	36	36
Average per well, per quarter	..	....	0.60	0.60
2nd, 1932	60	....	10	10
Average per well, per quarter	..	....	0.17	0.17
3rd, 1932	62	....	7	7
Average per well, per quarter	..	....	0.11	0.11
4th, 1932	62	....	34	34
Average per well, per quarter	..	....	0.55	0.55
1st, 1933	65	....	24	24
Average per well, per quarter	..	....	0.37	0.37
2nd, 1933	65	....	19	19
Average per well, per quarter	..	....	0.29	0.29
3rd, 1933	65	....	17	17
Average per well, per quarter	..	....	0.26	0.26
4th, 1933	65	....	17	17
Average per well, per quarter	..	....	0.26	0.26

FIGURE 8

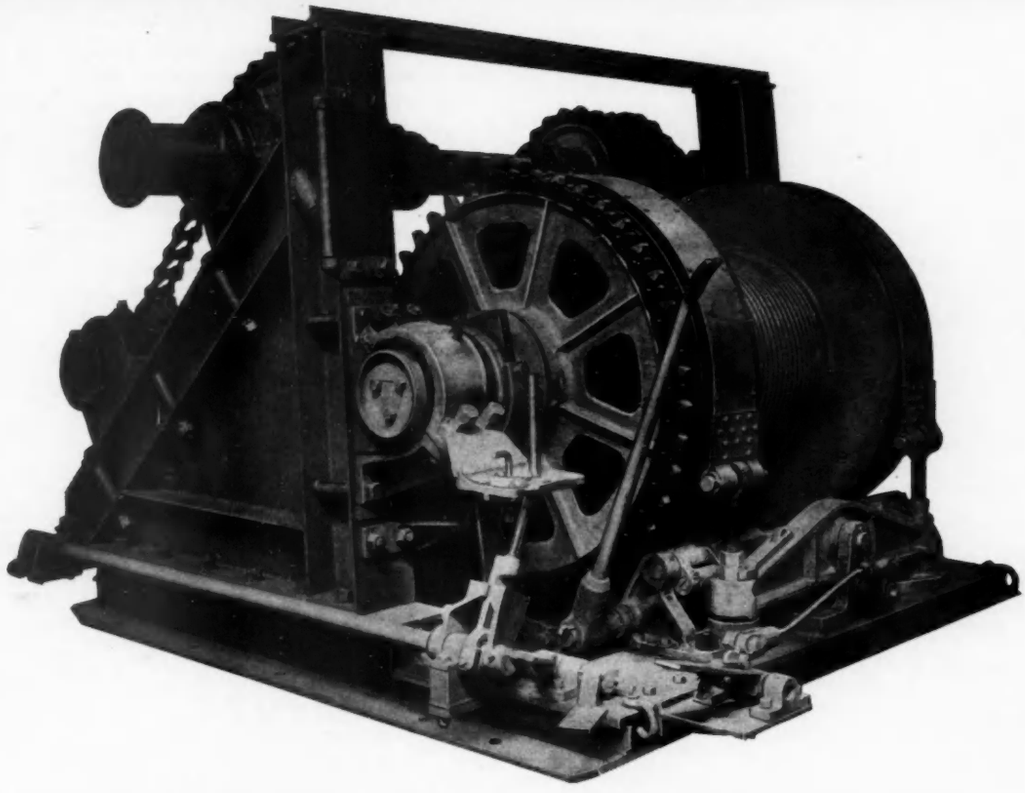

Summary of belt down time in hours per belt, per quarter
Curve 1, all long belts, not including endless belts
Curve 2, all long belts, including endless belts
Curve 3, all 14", 7 ply endless drive belts
Curve 4, all makes engine to countershaft or short belts
July, 1930
Jan., 1931
July, 1931
Jan., 1932
July, 1932
Jan., 1933
July, 1933
1
2
3
4

IDEAL

"Reg. U. S. Pat. Off."

UNIT TYPE DRAW WORKS

NO. 34-32-9-DU



Advanced design . . . rugged unit type construction . . . no framing into derrick head board . . . no vibration from draw works to derrick or other equipment . . . 54-inch brake rims . . . 32-inch grooved drum . . . extra large shafts . . . Hyatt roller bearings . . . Ideal Type K-54 Brakes.

Bulletin No. 47 free on request

THE NATIONAL SUPPLY COMPANY

This difference would be more pronounced if there were as many endless as cut length belts.

Curve (3) shows all downtime for endless drive belts. By referring to Table 6 it will be noted that 17 of these endless belts were in service when this campaign against downtime was begun in 1929. This type of belt had so well demonstrated its superiority for pumping service that in the 1930 report the engineers for this group of wells recommended that all belts worn out in future be replaced with endless belts. It will further be noticed that the number of endless belts in service at these wells increased from 17 in 1929 to 65 in 1933. At least 38 of these belts have been in continuous service for four years, and with the exception of one burned belt due to flood waters no downtime due to the belts themselves has been encountered. The only downtime shown is due to idlers. Most of this consists of adjusting and lubrication. Lubrication for most of the idlers at the present time, however, is fairly satisfactory. Idlers have also been improved in most instances to maintain uniform belt tension under varying atmospheric conditions. It was the policy of one company to place new endless belts in service at the heavier and more difficult pumping wells and to place the old belt in service at one of the lighter wells.

It should be noted here that all curves show a distinct rise for the various periods when potentials were taken. It should be further noted that a sharp rise occurs in Curve (1) Figure 8, for all periods of hot summer weather and then falls to a minimum for the winter months. Endless belts, it will be noted, do not show increased downtime for the summer months.

Curve (4) Figure 8 shows the downtime for engine to countershaft drive and reversing belts. These short belts were all cut length belts. Since reversing belts make up a part of these short belts and are in use only for rod and tubing jobs we could expect short belt downtime to be less than for the long belts. Another reason for this difference lies in the fact that poor band wheel surfaces and poor alignment of the band wheel unduly shorten the service of the long or drive belts.

During the years of 1932 and 1933 a number of belts in this group were continued in service which should have been replaced. Some had been in service for six years. One belt in particular was charged with an average of more than one repair job per day over a period of more than a year. Part of the decrease in drive belt downtime for the last half of 1933 is accounted for by the fact that several new belts were purchased.

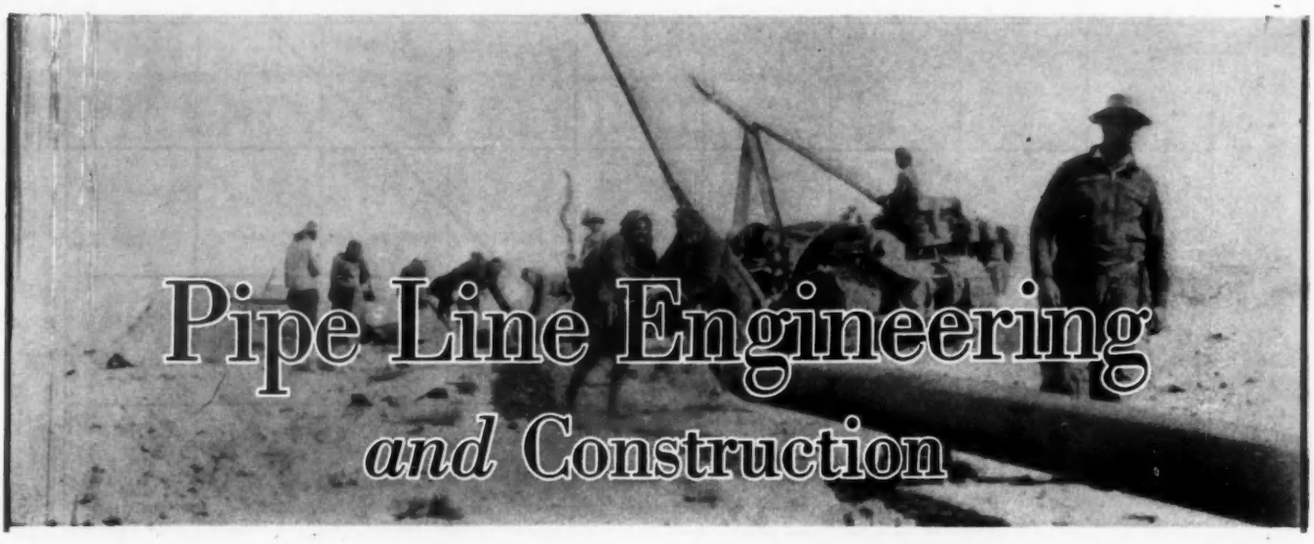
From the standpoint of servicing costs for belts, no outstanding saving in money can be claimed. Gained production, however, is a considerable item. The outstanding saving arises from increasing the life of belting. Prior to the period covered by this study the average service of a belt at these wells was slightly in excess of eight months. By the close of 1931 belt service had been increased to four years and as endless belts are replacing cut length belts this length of service is being steadily increased.

Article IV of this series on a study of pumping mechanical downtime will appear in a forthcoming issue of THE OIL WEEKLY.

TABLE 7
SUMMARY BELT DOWN TIME

Fourth Quarter 1929 to Fourth Quarter 1933, Inclusive
All Makes—12-inch, 7-ply—Power or Engine to Countershaft Belts (Short Belts)

QUARTER	No. in Service	Cut	Splice	Break	Clamp	Miscellaneous	Total
4th, 1929	175	55	14	22	12	2	106
Average per well, per quarter	...	0.31	0.08	0.13	0.07	0.01	0.60
1st, 1930	199	72	19	34	14	26	166
Average per well, per quarter	...	0.36	0.10	0.17	0.07	0.13	0.83
2nd, 1930	202	96	17	34	10	5	185
Average per well, per quarter	...	0.48	0.08	0.17	0.05	0.02	0.92
3rd, 1930	194	72	12	....	36	....	120
Average per well, per quarter	...	0.36	0.06	....	0.19	....	0.62
4th, 1930	194	26	19	19	26	....	91
Average per well, per quarter	...	0.13	0.10	0.10	0.13	....	0.47
1st, 1931	206	29	24	29	31	12	125
Average per well, per quarter	...	0.14	0.12	0.14	0.15	0.06	0.61
2nd, 1931	206	43	48	31	34	2	158
Average per well, per quarter	...	0.21	0.23	0.15	0.16	0.01	0.77
3rd, 1931	216	98	34	34	24	48	238
Average per well, per quarter	...	0.45	0.16	0.16	0.11	0.22	1.10
4th, 1931	242	43	29	48	24	58	202
Average per well, per quarter	...	0.18	0.12	0.20	0.10	0.24	0.83
1st, 1932	216	14	19	50	31	....	115
Average per well, per quarter	...	0.07	0.09	0.23	0.14	....	0.53
2nd, 1932	216	70	31	77	70	....	247
Average per well, per quarter	...	0.32	0.14	0.36	0.32	....	1.14
3rd, 1932	218	134	60	72	53	5	324
Average per well, per quarter	...	0.62	0.27	0.33	0.24	0.02	1.49
4th, 1932	218	48	38	70	29	2	187
Average per well, per quarter	...	0.22	0.18	0.32	0.13	0.01	0.86
1st, 1933	221	22	17	48	26	7	120
Average per well, per quarter	...	0.01	0.08	0.72	0.12	0.03	0.54
2nd, 1933	223	84	29	70	36	....	218
Average per well, per quarter	...	0.38	0.13	0.31	0.16	....	0.98
3rd, 1933	223	36	14	161	31	5	247
Average per well, per quarter	...	0.16	0.07	0.72	0.14	0.02	1.11
4th, 1933	223	29	10	36	14	....	89
Average per well, per quarter	...	0.13	0.04	0.16	0.07	....	0.40



Correlating Comparison of Chart Interpretations

F. B. TAYLOR, JR.

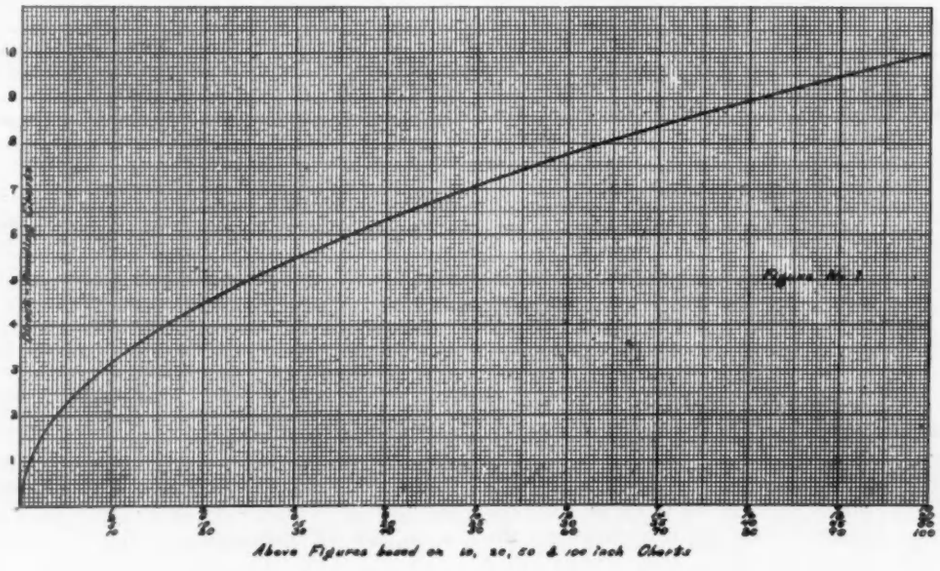
Panhandle Eastern Pipe Line Company
Stinnett, Texas

THE introduction and use of direct-reading orifice meter charts for natural gas measurement has necessitated accurate atmospheric pressure standards for the particular localities in which they are used. Also, due to the fact that many companies and affiliates employ both the standard and the direct-reading charts on meters of all differential and pressure ranges, it is necessary for the man in the field to have at hand a means of correlating the readings of each.

As a general rule the setting of the static indicator at a positive zero on standard charts is not a necessity, provided that the pressure fluctuation is relatively narrow; correct measurement being obtained if the pressure is correctly interpreted at the working ranges. Conversely, with the direct-reading charts, which indicate the square root of the absolute pressure (or the atmospheric pressure plus gauge pressure), the setting of the lower limit of the static becomes a function of the measurement.

Transposition of Differential Readings

Regardless of the range of chart or meter in use, provided that measurement is dependent upon an orifice, the flow will be recorded in actual inches of water displacement, or the square root of this displacement. A differential reading on a standard chart on a 100-inch meter may then be directly transposed to a direct-reading chart merely by extracting the square root of the differential reading. However, if the range of the meter is 50 inches rather than 100; and as the scale of the



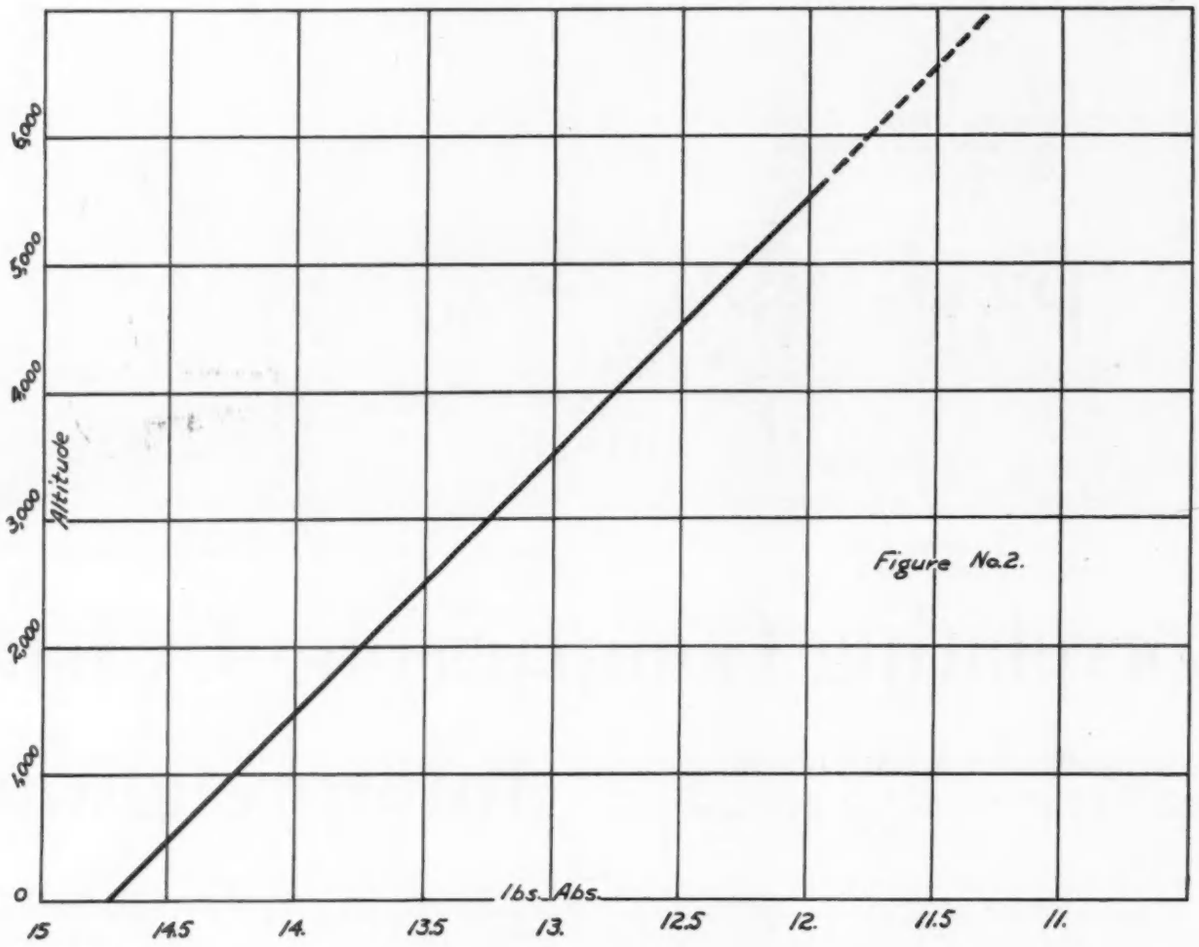


Figure No.2.

direct-reading chart is the same for all ranges of meters, the standard differential recording must be multiplied by $\frac{100}{50}$ before the square root is extracted.

By the application of this principle to all standard differential ranges the following formula is derived:

FORMULA A.

$$q = \sqrt{ad.\frac{100}{mr}}$$

where,

q = direct-reading chart recording
ad = actual differential in inches of water
mr = Maximum range of meter in inches of water.

Figure 1, computed by George B. Steele of New York Oil Company, Casper, Wyoming, is a graphic expression of this principle and is a ready means of transposing any standard chart recording to a direct recording, or the reverse.

Static Zero on Direct-Reading Charts

As the pressure is recorded on the direct-reading charts as the square root of the absolute pressure, the working zero will be above the actual zero line of the chart in proportion to the square root of the atmospheric pressure. And as pressure gauge springs are of different ranges, the arc through which the indicator arm will travel above absolute zero to the square root of the absolute atmospheric pressure on the direct-reading chart is longer for springs of short range than for the heavier type. As a consequence, the setting of the indicator to correspond with the local atmospheric pressure varies with the spring. This is exactly opposite the manner of setting the static indicator on the standard charts wherein the chart itself is graduated to the particular range of spring in use.

Given that the atmospheric pressure is known. The point at which that static indicator should be set for lower limit on the direct-reading charts again involves Formula A., but substituting, as,

$$q = \sqrt{ad.\frac{100}{mr}}$$

where,

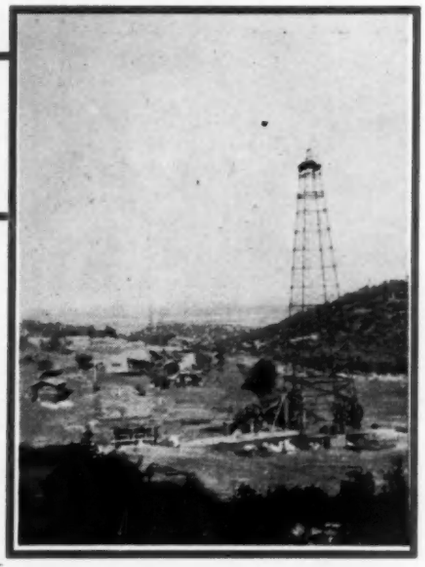
q = static position on direct-reading chart at zero gauge pressure
ad = local atmospheric gauge pressure
mr = maximum range of gauge spring

Generally, there is a relationship between the altitude and the atmospheric pressure in the ratio of approximately .05 pounds decrease in pressure to each 100 foot increase in altitude. Calculations based on this relationship must be temperature corrected and subtracted from the accepted standard atmospheric pressure.

The absolute pressure graph, Figure 2, is an average compiled by the United States Weather Bureau. However, local atmospheric pressure can most accurately be obtained from correlated data from repeated observations with accurate and tested instruments. These pressures are not uniform, as might be expected, and change with the depth of the earth's atmospheric envelope in relation to the latitude.

The precision of recording the absolute pressure on direct-reading charts is dependent upon a correct zero-gauge setting. Zero on the differential scale is the same as on standard charts. The use of the accompanying graphs, given a close approximation of altitude, is sufficiently accurate for all field work, and the transposition of the differentials is exact.

FOREIGN DEVELOPMENTS AND TECHNOLOGY



Austria Enters Ranks of Oil Producing Countries

Two discoveries of major importance have taken place in Austria in the latter part of 1934: discovery of petroleum in commercial quantities near the town of Zistersdorf and the discovery of the fact that the Sarmatic formations in at least one part of Continental Europe contain oil as a primary product.

Although credit of the discoveries goes to private enterprise, the Austrian government is showing keen interest in them. It is a novel situation for Austria to contemplate possible independence from other countries in the matter of petroleum needs. Aside from political aspects, the discoveries are of great economical importance to that country.

While a recent issue of THE OIL WEEKLY carried a news flash from Europe telling of the reported discovery of commercial production in Austria, a letter received December 4 from the operators, Erdolproduktions - Gesellschaft, m. b.H., confirms the production test and gives information indicating definitely that Gosting 2 has produced long enough to establish it as a commercially profitable well.

Gosting 2 has steadily increased from 170 barrels per day initially to a present rate of 240 barrels. Up to November 18 the well had yielded 15,600 barrels of clean oil. The well was swabbed in, and this manner of obtaining prooduction was at first used. Between swabbing operations the well demonstrated ability to flow intermittently. However, with a desire to disturb the producing horizon as little as possible, it was determined best to pump the well. Increased production has justified the change, and the oil continues free of sand and water. Thus far, the well maintains an oil column 976 feet above the bottom of the hole. The pump has been suspended at 1830 feet.

Possibility that performance of the discovery well of Zisterdorf field does not indicate full importance of the area is seen in the attitude of those in charge of operations. To quote from the letter, "We have good reasons to assume that the third oil sand, the sand furnishing present production, will not be the last one and that other oil sands will be found at greater depths. The first and second oil sands, (passed up during the drilling with only a test and without attempts at completion), will be produced from after

Gosting 2, near Zistersdorf, Austria, has produced sufficient oil to be classed as a commercial producer.

Rotary used in drilling the Austrian well.

the well has been exploited at its greatest (present?) depth. We may then expect a daily production from Gosting 2 of perhaps 350 to 400 barrels.

Current plans of the company call for the drilling of three or four wells with a heavy rotary rig in 1935. Location of these wells have been stipulated as in the direction of the tentatively fixed strike.

Tanks Erected

Erdolproduktions - Gesellschaft, m.b.H., has constructed three tanks 18 feet high and has other lease facilities to take care of a daily production of 2500 barrels. Those in charge of developing the field will include: Albert Brunnbauer, manager; Leon Hammerschlag, secretary; Brunnbauer, Jr.; Hermann Passler, superintendent; Dr. Karl Friedl, geologist; Dr. Walter Passler, mud expert; Emil Lodynski, tool pusher; and Ferdinand Panzner and Georg Adam, drillers.

As Gosting 2 is Austria's first commercial well, some facts brought out in drilling will be of value to future operators in that country. Sharp edged sands and hard sand stones caused considerable trouble during the first 2000 feet of hole. "These sands and sandstones showed an absorbing effect, took the water out of the flush (fluid), and thus caused the formation of mud plugs." This situation was rendered by chemical treatment. The operators cored 900 feet of formation without any loss.

England's Only Active Wildcat Test Abandoned

N. M. D. Syndicate's wildcat at Three Bridges, Sussex, England, stands abandoned at 1886 feet, whereas the reported object of the well was supposed to have been the higher Jurassic beds below the Wealden, expected at 2000 to 2200 feet, according to a communication received by THE OIL WEEKLY December 7 from London.

It is said equipment used by the syndicate was not heavy enough to go to 2200 feet.

Spudding another test in the vicinity, which is considered one of the best prospects in England proper, is pending application to the government for a permit.

Exploration Parties Busy Near Bad Grund, Germany

Seven competing exploration organizations are investigating oil possibilities of properties belonging to Oberharzer Mining and Smelting Works near Bad Grund, Germany, according to a letter received by THE OIL WEEKLY November 21. Prospective apparatus and methods of all sorts and descriptions will be used in the preliminary surveys, and for this reason the outcome thereof will be interesting.

Many of the present exploratory programs in Germany are being partly subsidized by the government.

Columbia's Exports

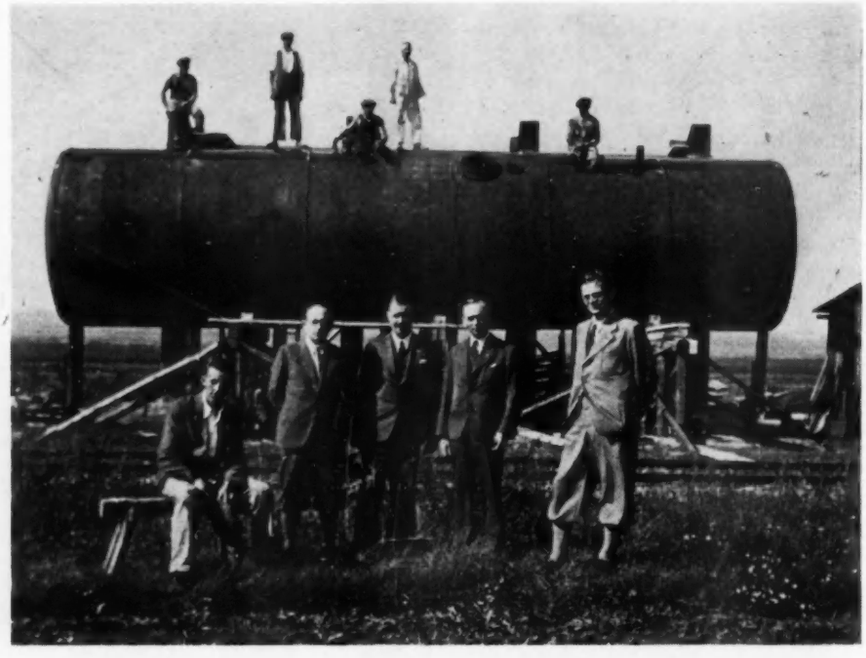
Exports of crude petroleum from Cartagena Bay, Colombia, according to a letter received November 19 by THE OIL WEEKLY, for the months of July, August and September were as follows:

Month	Barrels	Value (United States Currency)
July	1,639,606	$1,721,432
August	1,650,202	1,736,685
September	1,557,014	1,561,121

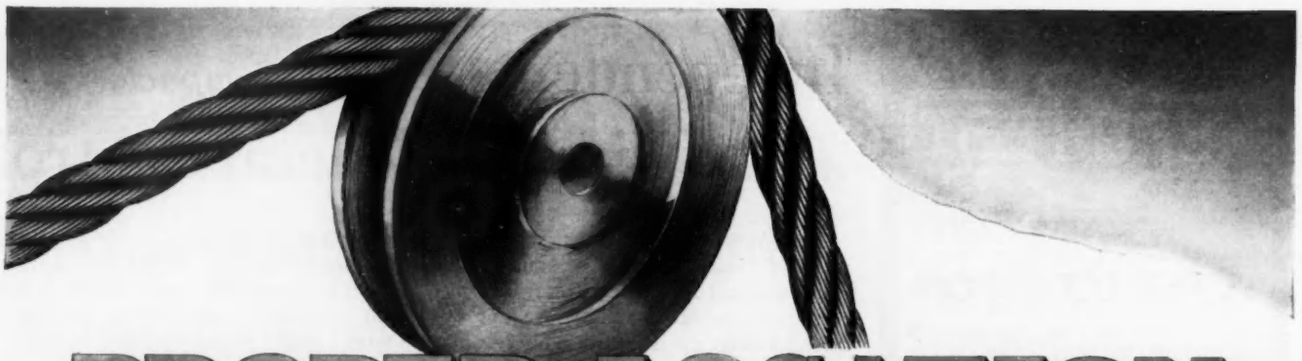
Values quoted above are based on c.i.f. prices at destination.

LOUIS HEWES, civil engineer, is among the recent transfers from the United States of America to Venezuela by Standard Oil Company of Venezuela.

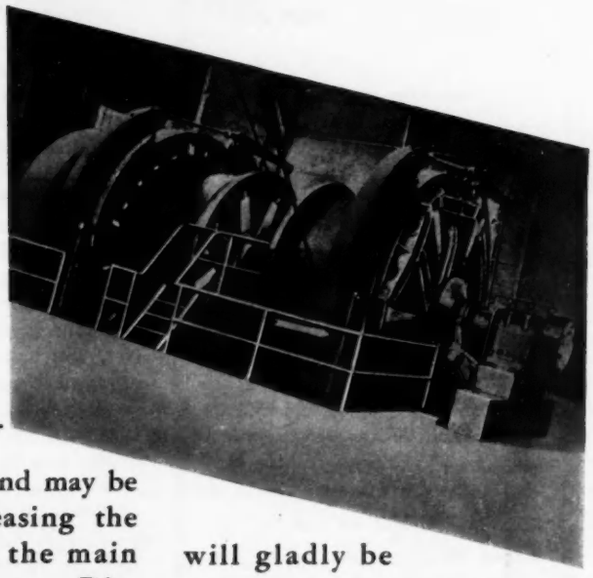
J. M. PINKERTON, electrical engineer, recently arrived in Venezuela for employment with Standard Oil Company of Venezuela.



Tank being erected to handle production from Austrian producer.



PROPER LOCATION of the MAIN SHEAVE will give longer ROPE LIFE



Know your Ropes

...This is a helpful hint, how to make wire rope last longer. Subsequent Wickwire Spencer advertisements in this publication will give other dollar saving information. Tell us about your rope problem and we will give you the answer.

The fleet angle, that is, the angle formed by lines drawn from the main sheave to both right and left rims of the hoisting drum should never be more than 3 degrees. If there is a greater angle needless side wear of the rope always occurs. This is true of both grooved and smooth drums. The condition when found may be corrected by increasing the distance between the main sheave and the drum. Diagrams, showing the proper location of the main sheave, will gladly be sent to you upon request.

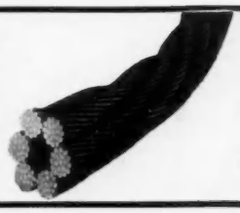
•

WICKWIRE SPENCER STEEL COMPANY, New York City; Buffalo, Chicago, Worcester; *Pacific Coast Headquarters:* San Francisco; *Warehouses:* Portland, Los Angeles, Seattle. *Export Sales Dept.,* New York City.

WIRE ROPE *by Wickwire Spencer*

BOTH...STANDARD LAY AND WISSCOLAY PREFORMED.

Wickwire Spencer manufactures all sizes and types of Wire Rope in standard lays and preformed. Wisscolay preformed wire rope will often solve a wire rope application difficulty. Ask our engineers where and when it should be used. Send for a free WIRE ROPE BOOK. It will prove of great value.



KEROTEST
REGISTERED U.S. PAT. OFF.

A PERFECT UNION

KEROTEST
FORGED STEEL UNIONS

Forged from high quality alloy steel, —with extremely high factors of safety—KEROTEST Unions combine the strength and stiffness to resist bending moment should undue stress be applied to bolting. (A slight bend will throw the threading out of round, resulting in leaking connections.)

The QUALITY built into KEROTEST is your constant safeguard—the long accurately cut threads assure perfect connections at all times.

KEROTEST Unions are supplied with tongue and groove faces, or ring joint and fitted with endless Armco Ingot Iron Gaskets. All bolting is of heat-treated alloy steel studs with milled hexagon nuts on each end.

Wherever high pressures and shock loads are encountered—don't take chances—always specify KEROTEST.

KEROTEST
MANUFACTURING COMPANY
Pittsburgh, Pa.

KEROTEST
REGISTERED U.S. PAT. OFF.

Independents Want *Compacts Aided by* Limited Federal Control

Fort Worth. — Vigorous support of modified federal legislation and an oil states compact as a safeguard against unrestrained production and its resultant disasterous effect upon the oil industry when the oil code is terminated developed at the Fifth Annual Meeting of the Independent Petroleum Association of America, held here December 7 and 8. This organization, which is the only national association of independents embracing all branches of the industry, has forged ahead during the past year. It has been effective in promoting the welfare of independents during the period that the oil code has been in force and has also gained recognition as a factor on legislative matters pertaining to the industry at Washington.

Creation of an interstate compact supported by limited federal legislation to enforce production quotas between states and a continued curb on petroleum imports must be attained to assure future stability of the oil industry, say members of the Independent Petroleum Association America, which favors this method of guiding the course of the industry after the expiration of the so-called Connelly amendment of the National Recovery Act, which authorizes the federal government to prohibit interstate traffic in illegally produced petroleum products, and the existing limitation and excise tax levy on petroleum imports. These important defense measures for domestic producers automatically expire in June, 1935, unless the next session of congress authorizes an extension.

Wirt Franklin, president of the association, predicted at its annual meeting being held here, that the industry is in danger of reverting to the former "law of the jungle" status unless definite steps are taken to regulate production and imports when present barriers are lifted. "If the program is allowed to break down, each new flush field will hurl a flood of oil upon the market, with the result that prices will again dip to 10 cents per barrel. Everything gained within the past five years will be lost," he added.

"You can't induce oil men to obey the law during unrestrained production. Excessive stocks that are built up during such periods are purchased at grossly inadequate prices, and the flush oil yield withdrawn at a mere pittance of the true value," he asserted.

Review was made by Franklin of the stand taken by the association in the past regarding federal control, adding that the body has not shifted its opinion in holding out for assistance of federal authorities in helping individual states hold production to allocated quotas. He reiterated that he was opposed to complete federal control, and is of the opinion that such will not be necessary in view of effective measures taken lately, particularly in Texas, by the various states to eliminate excess production.

"The same influential interests that are now opposing modified federal legislation are the ones that asked us independents to cut back production so they could remove large stocks of storage oil and refined products. There are no excess quantities of oil in storage now," Franklin stated. "Although we frequently hear that they exist." He added that when the results of a storage oil survey now being conducted by the Planning and Coordination Committee, of which he is a member, is completed that the industry will be alarmed over the comparatively small gasoline content crude now above ground. He commented that considerable storage oil has been held for 20 years, and that it is no longer suitable for manufacturing gasoline.

Urging the independents to consolidate their efforts in a program of control over the future, Franklin emphasized the danger of adverse legislation should the independents break up into groups of factions, thereby destroying their influence in guiding pending legislation. He charged that a minority group that seeks quick profits from flush fields will return the industry to a chaotic condition unless a modified form of federal legislation is provided after the expiration of the so-called Connelly amendment next June.

Russell B. Brown, compliance director of the Planning and Coordination Committee, stated that the failure of the courts to give prompt action on code cases has hindered the effectiveness of the industrial act. He reviewed the history of the oil code, adding that it was drafted by oil men and immediately after its inception a marked improvement was evidenced in all branches of the oil business.

Reports submitted by Harold B. Fell, executive vice president on activities of the association during the past year indicated that progress has been made in pro-

(*Continued on page 42*)

MARKETS and STATISTICS

Prices Somewhat Lower But Markets Are Relatively Firm

THE markets for refined oils continued relatively firm last week, although refinery prices were mostly unchanged from the levels of the previous two weeks. The outlook appeared promising, meanwhile, in view of expected further tightening of restraints on hot oil producing and refining in East Texas.

The expectation of increased effectiveness of East Texas control was based on scheduled inauguration of a new intra-state shipping control program by the Texas Railroad Commission December 10. A similar program by the federal government has virtually eliminated interstate movement of hot crude and refined oils out of East Texas.

The effect of the contemplated state shipping control last week, however, was to cause an increase in East Texas hot oil traffic, as producers and refiners made last minute efforts to profit on hot oil. The illegal output was indicated to be around 50,000 barrels per day or more.

Illegal gasoline went into intra-state commerce from both storage and current runs, with about 30 of the numerous East Texas refineries in operation. Willing to get rid of such material at price concessions, before effectiveness of the impending shipping regulations, the plants of the area were releasing gasoline into intra-state traffic at 2½ cents a gallon, or somewhat less than in the previous week.

On gasoline moving interstate out of East Texas, the third grade U. S. motor fuel was commanding generally a price of around 3¾ cents a gallon, although some was sold for as little as 3½ cents, it was reported. There was thus some weakening of that market, as in the previous two weeks the third grade, or below 62 octane, gasoline had been holding steady at 3¾ cents. Standard grade, that is, 62-67 octane, was averaging 4⅛ cents a gallon, and premium grade, or 68-70 octane, 4⅝ cents. The third, standadrd, and premium grades in North Texas were averaging 3⅞, 4¼, and 4⅞ cents, and in Group Three, Oklahoma, region, 3⅞, 4⅜, and 4⅞ cents.

Low Retail Prices

Low priced stuff out of East Texas promoted depressed service station prices in parts of Texas. In the Houston area the retail price held at 15 cents for third grade, including 5 cents taxes, compared with 10 cents the week before. But in Fort Worth, Dallas, and San Antonio third grade could be bought for 10 cents.

In the Middle West and Eastern States, also, depressed service station prices continued in effect, despite efforts and conferences aimed at terminating price wars. Influx of hot East Texas gasoline having been sharply reduced, if not eliminated, there was hope that profitable prices could be restored. But agreements could not be reached in the controversy over differentials between branded and unbranded products, and over margins to dealers, which influences have been partially responsible for the price wars.

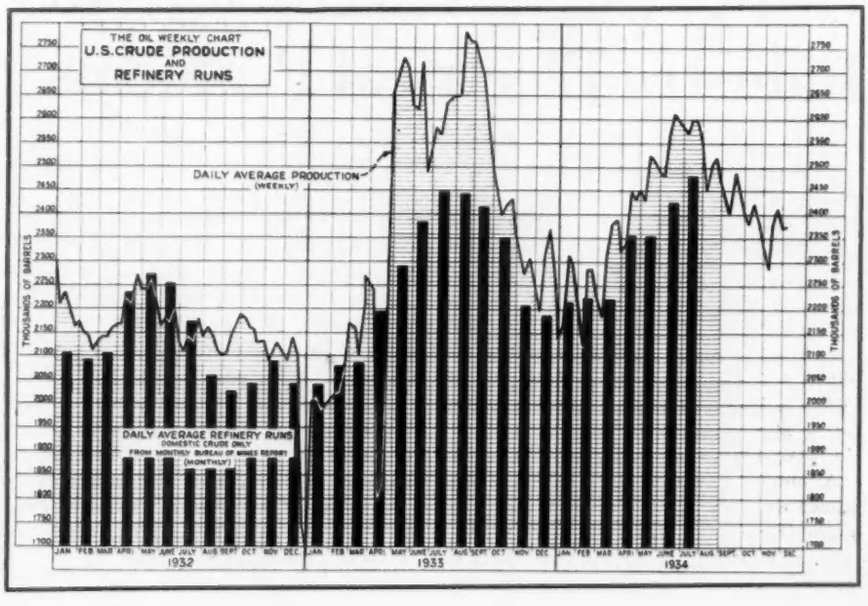
On December 4 Continental Oil Company announced from its headquarters in Ponca City, Oklahoma, that after a week's attempt to restore normal gasoline prices throughout its territory, it would return immediately to the sub-normal prices prevailing in the Middle West, although the normal prices established in Oklahoma and other territory would remain undisturbed. The company took the lead in an effort to establish the market at a level which would permit full margins of profit to jobbers and dealers and to eliminate extremely unprofitable conditions. But the effort was abandoned after important competitors had refused to meet the advance.

Oklahoma Market

Offerings of third grade U. S. Motor fuel were reported late in the week at 3½ cents a gallon in Group Three, Oklahoma, area, despite the effort of refiners in the district to hold to four cents. Thus there had occurred during the week some weakening of the market. The softness could not be charged, however, to the East Texas field, apparently, since very little material was available from that area. One independent company was said to be doing considerable business in the Upper Mississippi Valley area at 3⅝ cents.

Other grades of refined gasolines were coasting along, but showing some weakness in sympathy with the third grade materials.

Under the influence of continued cold weather throughout the Mississippi Valley, consuming centers, the burning oils and naturals continued to climb in price, and supplies were growing shorter. The 26-70 naturals were in good demand at 3½ to 3¾ cents, but were not expected to go much higher, in view of the condition in the refined market.



Independents Want Compacts Aided By Limited Federal Control

(*Continued from page 40*)

moting greater usage of domestic production of asphalt. Opposition has been strenuously voiced against the continued practice of the United States Bureau of Public Roads permitting the use of imported asphalt in constructing public highways.

In connection with the organization efforts to stimulate consumption of domestic asphalt, a paper was read by Emby Kaye, vice president, Skelly Oil Company, Tulsa, on the production, proper quality, and market possibilities of this petroleum by-product.

Resolutions adopted by the membership included an expression of appreciation of the sincerity and courage displayed by Secretary Harold L. Ickes in administering the oil code and continued wholehearted support was pledged elimination of federal taxes on gasoline and lubricating oil and an increase in the excise tax levy on imported petroleum products was directed to congress in another group of resolutions.

Enactment of legislation designed to establish a penalty for drainage of oil through excess production quotas as a means of protecting law abiding producers from losses in prorated fields was sponsored in the form of a resolution dispatched to the governors of each of the oil producing states. Two dissenting votes were cast against a resolution favoring the present oil code ruling that required the adoption of a plan of development in all new fields. The resolution called for the wishes of the majority of operators and lease ownership to govern the well spacing, drilling and production restrictions to be imposed. Jake L. Hammon, Ardmore, Oklahoma, owner of properties in the East Texas field, opposed the measure, contending that it was a step towards eventual government control. The chair permitted discussion on the matter, which developed that it is imperative that some control be placed upon development of new fields to assure stability of the industry in the event another series of major strikes follow in rapid order.

Chas. Fahy, chairman of the Petroleum Administrative Board, and Amos L. Beaty, chairman of the Planning and Coordination Committee, were guest speakers at the banquet staged for members of the association Friday evening.

Judge Beaty spoke extemporaneously, reviewing the results of the cooperative effort of the petroleum industry with the government since the adoption of the code. Fahy outlined the benefits that have been enjoyed by the industry and the huge task involved in bringing about improved conditions. He pointed out that these accomplishments now are being questioned by some who seek to dominate under the guise of initiative and independence. They are unwilling he added to carry on with the solid structure of a sound public policy. Those violating existing state and federal laws reap outlaw profit from the wealth of nature but are decreasing in number. He asserted that there is no reason why competent and disinterested enforcement of state and federal law proration under state law within the federal allocation should not be perfect. Recognizing the altered position assumed lately by some oil leaders who once advocated the production provisions of the code then suddenly turned to state compacts, Fahy stated that some changed because of their political philosophy while others do not want control. He added that they want the independence of license, not the independence of a true independent operating within a sound governmental framework. Answering the popular question as to whether production should be regulated by state or federal agencies Fahy stated, "I believe the primary responsibility lies with the state under a system such as now exists whereby the federal government is the umpire as it were between states and the states are the umpires within the state where its laws so authorize as in Texas, Oklahoma and Kansas. I believe the power resides in the federal government to go further where the rules are violated and the state fails to function, causing injury to citizens of other states, and the umpires must have the power to enforce. Whether or not the power so resides is after all a matter first for the consideration of congress and then for the courts."

The leadership of Franklin during the years that he has served as president of the independent body, which was formed in June, 1929, during a conference of oil leaders at Colorado Springs, Colorado, has again received the endorsement of the membership through unanimous approval of his reelection. Several minor changes in the officers and executive committee were made. Other officers reelected included: Harold B. Fell, Ardmore, Okla., executive vice-president; C. E. Buchner, Tulsa, executive manager; T. J. Steuart, Washington, D. C., assistant to the president; and N. T. Gilbert, Turman Oil Company, Tulsa, treasurer, the latter succeeded George A. Dye, Tulsa.

Members of the executive committee follow: Chas. F. Roeser, Roeser & Pendleton, Inc., Ft. Worth; W. R. Nicholson, Longview, Texas; H. M. Stalcup, Skelly Oil Company, Tulsa; H. D. Atha, Mount Pleasant, Michigan, all new members, and the following were reinstated: J. S. Bridwell, Bridwell Oil Company, Wichita Falls, and Marvin Lee, state commission, Wichita, Kansas.

Utility Engineers Discuss Oil Industry Electrical Problems

Beaumont, Texas.—The Sixth Annual Conference of the Petroleum Electric Power Club, held here December 4, 5 and 6 was the setting for the exchange of ideas between power utility engineers and petroleum engineers on the application of electrical equipment to various oil industry operations. Frank and to the point discussion of many problems was the feature of the meeting, which had one of the largest attendances in the history of the organization.

A number of engineers with oil companies were included on the speakers program. These included: J. H. Russell, assistant to the vice president of Gulf Production Company; J. M. Cooper, engineer, Gulf Production Company; T. L. Wallace, The Texas Company; and C. R. Bayless, engineer, Gulf Production Company. In addition to these men a number of other engineers and superintendents of oil companies were present and took an active part in the discussions that followed the presentation of papers. Utility engineers were in attendance from Texas, Louisiana, Oklahoma, Missouri, Kansas and Illinois.

It was pointed out that there has been a great deal of thought given to the application of electrical energy to the petroleum industry, and that as a result a great deal of improvement has been made in electrical equipment. The papers de-

(*Continued on page 45*)

Crude Oil Production Rises Despite Reduced Allowable

UNITED STATES crude oil production last week was about 20,000 barrels per day higher than in the previous week, despite the fact a new, lower allowable was in effect. The output for the week, that is, for the period ending December 8, averaged 2,393,100 barrels daily.

That production rate was above the new allowable, which became effective December 1, by 86,000 barrels per day, the revised quota being 2,307,000 barrels daily. In the previous week the 2,372,750 barrels production per day exceeded the November allowable, then effective, by about 32,000 barrels daily.

In addition, there was indicated to have occurred an increase in East Texas hot oil, not considered in the above figures. The excess production in that area was indicated to have been around 50,000 barrels daily, compared with probably 30,000 barrels per day the week before.

Thus the actual excess output last week was indicated to be around 136,000 barrels daily, compared with about 62,000 barrels in the previous week.

The higher illegal production in East Texas was due to last-minute efforts of some refiners and producers to market material before the scheduled inauguration of a new Texas intra-state shipping control plan, comparable with the federal shipping control that has virtually eliminated interstate shipment of hot oil from East Texas.

The higher production last week, compared with the week before, was due largely to a sharp increase in California. Operators in that state regularly increase production at the outset of each month, so as to participate in a rush for claiming allowables while wells are still capable of yielding comparatively large output. The excesses are then compensated later in the month. Last week the state's output jumped 47,000 barrels to 496,000 barrels per day, with most of the important fields registering increases. The December allowable for California under the federal agency alloactions is 456,800 barrels per day, or about 5000 barrels daily less than in November.

Texas reported production last week came down about 8000 barrels, to an average of 953,900 barrels daily. The state's allowable was reduced by the federal government as of December 1 to 941,300 barrels daily, from 957,300 barrels. Thus Texas last week was about 13,000 barrels above the allowable, exclusive of the substantial volume of hot oil in East Texas.

Oklahoma last week averaged 454,800 barrels daily, or about 9000 barrels per day less than in the previous week. The Oklahoma allowable was set by the federal agency at 451,600 barrels daily for December, compared with 459,300 barrels per day in November.

Kansas output of 122,150 barrels daily last week was below the 123,900-barrel per day allowable for December. The new production rate was about 5000 barrels lower than in the week before.

Louisiana again overproduced, averaging 106,150 barrels daily, or a little less than in the previous week. Louisiana's allowable was raised by the federal government effective December 1 to 94,000 barrels per day from 90,000 barrels.

Texas Legislators Plan Additional Oil Taxes

Austin, Texas.—The Texas Senate Tax Committee Friday discussed at length means for increasing revenues to the state by raising taxes on the oil industry. Appearance before the committee of J. F. Wolters and G. W. Foster of The Texas Company on the intangible assets tax on pipe lines led to the discussion.

It was revealed that the committee had a comprehensive program under consideration. This included a five cent per barrel severance tax on crude oil, a tax of two cents per thousand cubic feet on natural gas, revision of the methods of assessing the intangible assets tax on pipe lines, and enactment of a bill proposed by State Comptroller George H. Sheppard to improve tax collections.

A suggestion was made that the five cent crude tax, to be substituted for the current tax of two cents per barrel or two percent of the value after oil reaches one dollar, might be substituted in lieu all other oil company taxes, including ad valorem taxes. General Wolters pointed out that this would place a greater burden on smaller concerns whose ad valorem taxes are small in proportion to their production. He also pointed out that constitutional difficulties might interfere with such a program. Revision of the method of assessing intangible assets taxes was urged by State Tax Commissioner T. P. Edwards, who characterized the present system as unsatisfactory, based as it is upon the capitalization of net income at an arbitrary rate, less the property valuation. He recommended a law that would allow assessment of taxes based on assessed valuations. He pointed out that companies which made low renditions to avoid payment of high ad valorem taxes would auto-

United States Crude Oil Production

Estimates compiled by The Oil Weekly

District or State	Barrels Daily for Week Ending Dec. 8	Dec. 1
TEXAS—		
Texas Panhandle	57,700	59,100
North Texas	54,500	54,700
West Central Texas	27,400	27,500
West Texas	138,500	139,700
East Central Texas	44,000	43,100
East Texas Field	409,500	413,400
South Texas	58,600	59,500
Texas Gulf Coast	163,700	164,800
Total Texas	953,900	961,800
OKLAHOMA—		
Oklahoma City	157,550	158,225
Seminole Area	92,375	98,650
Tatums	5,500	5,500
Lucien	7,400	8,675
Others	191,975	192,550
Total Oklahoma	454,800	463,600
KANSAS—		
Ritz-Canton	11,375	10,275
Voshell	5,225	4,750
Nikkel-Hollow	11,075	10,875
Sedgwick	7,375	7,350
Others	87,100	94,050
Total Kansas	122,150	127,300
LOUISIANA—		
North Louisiana	23,650	23,700
Louisiana Gulf Coast	82,500	82,800
Total Louisiana	106,150	106,500
ARKANSAS	31,000	31,450
CALIFORNIA—		
Long Beach	64,000	53,000
Santa Fe Springs	39,000	35,500
Huntington Beach	40,000	37,000
Dominguez	18,000	18,000
Inglewood	9,600	9,000
Ventura Avenue	25,500	24,500
Seal Beach	6,500	6,000
Midway-Sunset	55,000	48,500
Elwood	9,000	10,500
Kettleman Hills	61,500	60,000
Mountain View	14,000	12,000
Playa del Rey	10,500	10,000
Others	133,400	124,000
Total California	496,000	449,000
MOUNTAIN STATES—		
Wyoming	36,500	36,800
Montana	11,100	11,500
Colorado	3,200	3,300
Total Rocky Mountain States	50,800	51,600
NEW MEXICO	45,800	46,300
EASTERN STATES	105,200	108,400
MICHIGAN	27,300	26,800
Total United States	2,393,100	2,372,750

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended December 1, 1934

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	467	80.2	3,663	8,185	11,848	974	250	14,715	496	471	95.0	98
Appalachian	150	140	93.3	93	66.4	669	1,025	1,694	262	75	1,669	69	69	100.0	23
Ind., Ill., Ky.	446	422	94.6	312	73.9	2,447	3,999	6,446	617	55	5,607	325	309	95.1	95
Okla., Kans., Mo.	461	386	83.7	215	55.7	2,103	1,551	3,654	426	615	3,927	256	238	93.0	57
Inland Texas	351	167	47.6	89	53.3	986	89	1,075	210	530	1,715	82	66	80.5	22
Texas Gulf	566	552	97.5	483	87.5	3,827	328	4,155	1,187	130	11,308	358	355	99.2	95
Louisiana Gulf	168	162	96.4	112	69.1	781	323	1,104	147	10	4,375	71	71	100.0	19
North La.—Ark.	92	77	83.7	41	53.2	178	31	209	39	40	547	41	38	92.7	8
Rocky Mountain	96	64	66.7	38	59.4	498	.....	498	99	30	647	46	42	91.3	12
California	848	822	96.9	364	44.3	7,905	2,243	10,148	777	2,505	69,469	209	209	100.0	45
TOTALS WEEK: December 1, 1934	3,760	3,374	89.7	2,214	65.6	23,057	17,774	40,831	4,738	4,240	113,979	1,953	1,868	95.6	474
November 24, 1934	3,760	3,374	89.7	2,379	70.5	22,971	17,235	40,206	4,703	4,230	113,262	1,953	1,868	95.6	479

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week December 1, 1934 compared with December, 1933 Bureau figures.

Estimate B. of M. Basis December 1, 1934	2,400		520
Estimate B. of M. Basis November 24, 1934	2,565		525
U. S. B. of M. December, 1933: Daily Average Crude Runs	2,272	U. S. B. of M. December, 1933: Daily Average Cracked Production	461

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

Summary of Field Results During Past Week

State	Completions	Oil wells	Gas wells	Failures	Init. prod.
Arkansas	2	0	0	2	0
California	10	10	0	0	10,850
Colorado	1	0	1	0	0
Kansas	18	10	1	7	8,950
Kentucky	12	6	0	6	245
Louisiana	11	6	1	4	5,230
Michigan	6	2	3	1	75
Mississippi	1	0	1	0	0
Montana	1	1	0	0	205
New Mexico	7	6	0	1	32,185
Ohio	41	11	19	11	100
Oklahoma	36	21	2	13	21,770
Penn'slva	4	2	1	1	20
Texas	173	127	8	38	408,430
West Va.	13	1	8	4	10
Total	336	203	45	88	488,070

Comparison of Permits Granted for New Wells

State	Week ending Dec. 8	Total this month	Total this year	Total this date last year	1933 year total
Arkansas	10	10	100	44	47
California	19	19	622	539	593
Louisiana	8	8	724	726	755
Kansas	21	21	702	623	682
Michigan	10	10	409	400	420
Oklahoma	50	50	1,926	1,206	1,315
Texas	212	212	10,721	7,349	7,845
Total	330	330	15,204	10,887	11,651

Federal Authorities Seek Overproduction Injunction

Los Angeles.—Federal District Judge Paul McCormick late December 6 took under advisement application of federal authorities for an order enjoining Wilshire Oil Company from producing crude oil in excess of fixed allotment. Attorneys spent three days in presenting their argument.

Wilshire's other case seeking an injunction to prevent competitive companies from refusing to deliver gasoline to stations selling its production was taken from calendar for the present. The temporary order enjoining certain marketers from selling gasoline to stations selling products made by concerns charged with over producing crude oil was dissolved, thus making way for the Wilshire case now under consideration.

A decision is expected very soon and regardless of who wins, it is understood the matter will be appealed to a higher court.

matically pay higher intangible taxes. He estimated that the present renditions average 48 percent of the true value of the lines. General Wolters declared in uncertain terms that Texas oil taxes were sufficiently high already, and seriously handicapped the industry. He urged that the committee foster legislation to insrease collection of delinquent taxes, contending that this would furnish all the needed revenue if handled properly. The committee members indicated that they would hold no further hearings on oil and gas taxation. However, their program is subject to adjustment.

South Burbank Pool Is Further Defined

Fairfax, Oklahoma.—The new South Burbank pool of Osage County appeared to be further defined as Champlin Refining Company prepared to shoot for the second time Fletcher 3, SE SW SE 4-25n-6e, in the northern portion of the pool. After shooting the first time with 40 quarts at 2748 to 2764 feet in Bartlesville sand, topped at 2729 feet, operators had only 500 feet of oil in the hole. It apparently will make a very small well.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices—Revised to December 7, 1934)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr.	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Mom Bluff, Raccoon Bend, Sour Lake Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and SW Texas	Below			
Refugio (Light)	30— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Petlus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 30— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Big Muddy	*$1.01			9-29-33
Rock Creek	*1 02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Ponders	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.30			9-29-33
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.08			5-26-34
California				
Signal Hill	14— .65	1¢	16— .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans Dominguez	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship.)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .96	9- 6-33

*All gravities—flat rate

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15— .65	2¢	16— .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway-Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.30			11- 6-34
Sw Pa. Pipe Line	*1.97			11- 6-34
Eureka Pipe Line	*1.92			11- 6-34
Buckeye Pipe Line	*1.82			11- 6-34
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

Utility Engineers Discuss Oil Industry Electrical Problems

(*Continued from page 42*)

livered discussed producing and drilling methods, pipe line and refinery electrical installations, rate schedules and other subjects of importancee. All papers delivered at the meeting are to be copied and given distribution to oil companies and utilities companies interested in the sales of electrical current to the oil industry.

Joseph E. Elliott, Southwestern Gas and Electric Company, Shreveport, Louisiana, was elected chairman of the organization for the coming year, succeeding W. H. Stueve, Oklahoma Gas & Electric Company, Oklahoma City. C. N. Robinson, Public Service Company of Oklahoma, Tulsa, was the choice for vice chairman, a position occupied during the past year by A. R. Watson, Gulf States Utilities Company, Beaumont, Texas. W. B. Baugh, Kansas Gas & Electric Company, Wichita, Kansas, was re-elected secretary-treasurer.

Directors for the coming year will be composed of the following members: D. C. McKee, Empire District Electric Company, Joplin, Missouri; E. A. Armstrong, Public Service Company of North Illinois, Chicago; Joseph E. Elliott, Southwestern Gas and Electric Company, Shreveport; W. H. Stueve, Oklahoma Gas & Electric Company, Oklahoma City; O. W. Jones, Central Power and Light Company, Corpus Christi, Texas; A. R. Watson, Gulf States Utilities Company, Beaumont; F. M. Austin, Houston Lighting & Power Company, Houston; C. N. Robinson, Public Service Company of Oklahoma, Tulsa; F. A. Graham, Kansas City Power and Light Company, Kansas City, Missouri; and W. S. Baugh, Kansas Gas & Electric Company, Wichita, Kansas.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24.
May 2, 1933	....	Cut 19.	.....
May 9, 1933	Cut 20.	.....	.....
May 22, 1933	Up 10.	.....	.....
June 19, 1933	Up 10.	Up 19.	.....
June 26, 1933	Up 10.	.....	Up 9-12
July 6, 1933	Up 13.	Up 10.	.....
July 17, 1933	Up 15.	.....	.....
July 28, 1933	Up 15.	.....	.....
August 11, 1933	Up 10.	.....	.....
August 24, 1933	.....	Up 10.	.....
August 30, 1933	Up 15.	.....	.....
September 6, 1933	Up 10.	Up 10.	Up 15.
September 8, 1933	.....	Up 15.	.....
May 1, 1934	Up 10.	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Three percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

Tenders Required by Texas Commission on All Products

(Continued from page 9)

This report must be filed in quadruplicate and covers "oil in possession of the transporter on the effective date of this order, and in case of such oil the transporter may make such report, instead of the shipper, and it shall be sufficient, subject to the other provisions of this order, for the report to show that the oil was in possession of the transporter on the effective date of this order."

The principal purpose of this Form SW-3 is to cover any oil on hand when the new order becomes effective. This will eliminate the necessity for the commission to determine the exact source of all production above ground at the time the new system is installed.

By this system of permits, all oil on hand is registered with the commission and they may begin with a clean slate. Shippers, the first receiver in each instance, must stamp the tender serial number on the shipping papers accompanying each shipment of crude, thus eliminating the necessity for the tender to follow the crude, and to allow the commingling of shipments, or the shipment to different consignees of a part of the oil covered by a particular tender.

Pipe lines must furnish to the connecting carrier in writing the date and number of each tender covering oil transported by this method.

The order specifically provides that subsequent handlers may rely on the serial numbers of tenders on shipments received, and thus need not apply for an additional tender before disposing of the oil, providing that they do not receive more oil than was covered by the original tender.

In order that the commission may know that only oil received and transported by authority of a registered or approved tender, or oil received from without the state, has been delivered, transporters are required to file, semi-monthly, Form SW-5.

By checking these reports the commission may determine exactly how much oil has been received and whence it came. The reports will also furnish a simple check of serial numbers for the consignee.

The commission has retained unchanged the current set-up for handling crude produced in the East Texas field.

Refined Products Tenders

The new order requiring tenders on all refined products transported in Texas applies to "products transported from each and every refinery, topping plant, blending plant, gasoline plant or other plant at which a product is manufactured or processed . . ."

All reports on these movements must be made on the new form SW-4, and a permit must be had before any product may be moved. The applicant must certify that he has not disposed of products covered by other tender forms called for in the crude oil order sufficient "in quantity to cover the manufacture of the tendered product or products." This also applies to oil from outside the state or inventoried on the day the new order becomes effective. Any products derived from inventoried crude must be identified in the tender.

Permits filed by casinghead or natural gasoline plants must list the leases from which the original production was derived, as well as the plant where the primary manufacuring process took place.

Hearings

No tenders on processed crude will be approved until after a public hearing. However, the order specifies that these hearings, save in the case of an emergency, must be held within 12 hours after the application has been filed, so that movements should not be seriously delayed by this provision.

The local deputy supervisor or commission agent who receives the application is required to post a notice of the bearing on a bulletin board at his office. At the hearing any interested party may question the propriety of the application, and interrogate witnesses offered to prove up an order.

Inventories

Companies with stocks on hand on December 10, the effective date of the order, must file with the commission a detailed inventory within ten days thereafter.

These inventories must indicate clearly the classes of oil and products on hand, together with the location and ownership of the receptacles within which they are contained. A serial number is to be given to each of these inventories registered with the commission.

If the products are derived from East Texas crude or include East Texas crude, then the inventory must also list the tenders under which the original movement of crude was allowed.

The right is specifically reserved to the commission to investigate the records of any concern before approving a tender.

Provision is made for the issuance of tenders "where the destination or consignee of products covered by the permit is known or unknown at the time of application, but no permit may be issued which names more than one initial transporting agency. A permit may be issued to cover more than one delivery, or to cover deliveries on a forecast to meet requirements of the shipper."

Permits of the latter class carry a definite expiration date. Unless the oil is shipped within the period specified, the permit becomes invalid. Only the serial number is required to follow the shipment.

Forecast Tenders

Permits may be obtained to cover shipments to be made during all or a part of the next succeeding calendar month, provided they are obtained not earlier than the 20th day of the month preceding the shipment.

The initial receiver must stamp the shipping papers with the date and serial number of the tender, except that pipe line companies are required to notify the connecting carrier in writing listing this information. Subsequent receivers are specifically forbidden to accept more oil than is covered by the tender indicated on the shipping papers or in the pipe line company listing.

When the oil is received by the initial receiver, he must endorse on his copy of the commission permit the quantity and date of each receipt for shipment under the particular tender indicated.

Specific exemption is provided of all retail purchasers "where such purchase is made for his own consumption and use," although any other party moving a product must first obtain a tender.

When these quadruplicate reports are filed, sworn to by the applicant, two copies are retained by the commission, and the other two are returned to the applicant. One copy returned to the applicant may then follow the shipment, being turned over to the transporter.

Court Attack on Pipe Line Order Postponed

Austin, Texas.—Hearing on the suit filed by Humble Pipe Line Company attacking the new Pipe Line Rule 9 was postponed until December 17 when it came to trial December 7. The company has enjoined the rule promulgated by the Texas Railroad Commission, which was to become effective on Decemebr 1.

Under provisions of the old rule, pipe line companies were permitted to deduct one percent for strappage.

Prospects Unusually Favorable
(*Continued from page 8*)

probably not be given in the case before the middle of February. Last week the government filed a voluminous brief and appendix in this case, which brings before the high court one of the first challenges to the New Deal.

Plaintiffs in the consolidated cases, East Texas producers and refiners, question validity of oil code provisions, some of the oil administrator's field regulations, and sub-section 9 (c) of NIRA, which authorizes federal regulation of interstate oil shipping.

Revamped NRA and Oil Control

AMONG the manufacturers of the industrial East who sell to oil companies and associated concerns, there has arisen much groping and speculation as to how the oil industry would fare under a revamped NRA as now contemplated: without production control, without price-fixing. Making allowance for such revision either before or after expiration of the recovery act next June, some manufacturers were optimistic, while others were slipping into the dumps.

Here is how the speculation was running. If NIRA production control is completely abandoned, federal control of oil production in East Texas will be terminated. The big field will once more run wild, possibly yielding 1,250,000 barrels of crude daily for as long as 60 days, before letting up through falling pressures.

The pessimistically inclined were seeing visions of 10-cent crude and one-cent gasoline, and the virtually complete washing out of buying power and buying inclination in the industry for considerable time.

The optimistic, on the other hand, were visualizing the hypothetical overproduction as a purging process that would in a few months leave the industry in a healthy condition, with the East Texas dragon enervated and eliminated as a constant market threat, and with overproduced oil safely in the tanks of the big companies. Some of the optimists, moreover, were entertaining hopes for big orders during the assumed flood for steel tanks, in which the excess production would have to be stored. Of the 1,250,000 barrels per day that was allowed as the physical limit of crude oil handling in East Texas, it was figured 500,000 barrels a day, or about 100,000 barrels daily more than now, would be absorbed in the markets, leaving 750,000 barrels a day to go to storage. In 60 days 45,000,000 barrels would go to storage.

Oil Apparently Not Affected

While interesting, those speculations seemed to be without real significance, because of being founded, apparently, on misapprehensions. For information out of Washington indicates that plans for revising the industrial recovery program have not contemplated removal of production control in the oil industry. Donald Richberg, executive director of the National Emergency Council, last week was completing, for the President's consideration, recommendations concerning revision of NIRA in the coming session of Congress. The recommendations were understood to call for elimination of production and price restrictions, but only, or at least primarily, in the manufacturing industries.

The recovery program as affecting the oil industry is, in fact, little more than a matter of production control, and lifting of such control would represent virtual abandonment of federal oil regulation. The support which the President gave Oil Administrator Ickes last spring on the Thomas-Disney bill is evidence oil production control will not be readily relinquished by the federal government.

In the talk about unrestrained production in East Texas, another important consideration seems to have been overlooked. Texas oil laws have not been repealed, and Texas oil control agencies have not ceased functioning. For three years prior to NIRA state authorities were regulating East Texas with reasonably effective results. On several brief occasions the big field actually ran wild. But in each instance the state authorities completely closed the field in. If necessary, they may be expected to do so again.

Ickes Calls Compact Idea a Pretense

OIL Administrator Ickes sees the agitation for an interstate oil-control compact as a pretense masking a desire for no control at all. That was the gist of his comment on the conference of oil state governors at Ponca City, Oklahoma, December 3. Governor-Elect Jimmy Allred of Texas at that meeting asserted neither the federal government nor any outside state can tell Texas how much oil it may produce.

The Administrator obviously had the right general idea. But not being without sin, he perhaps should have hesitated to cast the stone. He has talked repeatedly about "hot" oil, for example, while the country's crude production has been so rigidly held back for several years as to cause sharp and practically continuous reduction of stocks.

Obviously, there is some subterfuge in the interstate compact agitation. But all seems to be fair in politics, as in love and war. The industry and the oil states really do not want, or feel that they need, permanent federal oil control. But they must play politics to keep from having it thrust upon them. Probably a more accurate statement than that of the oil administrator would be that the compact agitation is an effort proposing a doubtful form of federal control, but involving a general conviction in the industry and the oil states that no effective federal control at all is preferable to the rigid and possibly crippling form that has been threatened by some federal control sponsors, prominent among whom is the oil administrator.

Interstate Compact Not Approved at Governors' Meeting and Seems Remote

(*Continued from page 12*)

"In my opinion, our oil producing states should perform their duties of sovereignty not only to their local individual interests, but in cooperation with the other states for the common welfare of the Nation. This end can be achieved not by the creation of new and untried powers but by the exercise of powers already vested in the states.

"It is my hope that, as a result of this meeting and conference, we will see fit by resolution to request Congress to grant permission for the states to enter into an Inter-State Compact."

Governor and Governor-Elect Alf. M. Landon of Kansas, who was expected to "go down the line with Oklahoma for an inter-state compact," sprung the surprise of the day as the first speaker called upon by Governor-Elect Marland. Governor Landon first expressed himself in favor of the continuance of "hot" oil legislation and stated that it will be necessary to have some form of federal control under inter-state compacts. Expressing his general views, Landon said:

"I am a stripper producer myself. Petroleum reserves are peculiarly susceptible to conservation measures. A compact between the oil producing states is a very excellent objective. Most certainly until we do have some form of compact we must have something to prevent collapse of the industry. We should make sure of federal control until we wo have some form of compact. There has been too much bickering between the Department of the Interior and the Department of Justice. I will take the Thomas-Disney bill as is, if necessary, or any other form of federal control, preferring a specific limitation as to time. If something is not done we will have 10-cent oil within 30 days." Governor Landon did not make himself clear on this prediction but it was assumed he meant within 30 days after expiration of the existing form of control under the National Industrial Recovery Act.

In reply to a question by Governor-Elect Allred as to whether Kansas was desirous of increasing the price of oil, Governor Landon said, "My position is that the revenue to the state should be increased and that the natural resources should be conserved."

Governor-Elect Allred replied, "It is my personal view and I think that of the people of Texas, that any plan to artificially fix or control the price of oil will be opposed."

"What about cotton?" Langdon interposed.

"I have not tried to tell Kansas how much wheat to grow or how much oil to produce. I think the State of Texas has been entirely fair in its attitude and that an honest effort has been made to curtail production. However, we do not propose to be told how much oil we can produce. We have accepted the United States Bureau of Mines allocations as evidence and our production has not greatly exceeded those recommendations."

At this point it appeared that a heated argument would evolve between Allred and Landon, but the latter smiled and permitted the new Texas governor to continue. "We favor continuance of 9-C of the NRA which gives the federal government authority to stop the running of illegally produced oil interstate. This section (9-C) was drawn by an independent operator of Texas and introduced by Senator Conally of Texas.

"I don't think the federal government or any other state has the right to tell us how much oil we can produce. I don't think the people of Texas would stand for it and we are not going to be a party to a plan for any one to tell us what to do and to raise the price of products to the consumers. I don't think a state can barter the rights of its citizens."

J. R. Pemberton, state proration umpire of California and former Oklahoma oil producer was then called upon to express his views as an observer for the state. Pemberton subscribed to the views of Governor-Elect Marland, said that he opposed federal control and subscribed to the continuance of 9-C.

At this point the argument of the morning session was resumed between Governor-Elect Allred and the tall Californian.

"Do you think that if oil is used it can be wasted?" Governor-Elect Allred asked.

"Surely, if it is improperly used." Pemberton then cited the use of oil for laying the dust which he termed improper use and a waste.

Hiram Dow, representing the governor of New Mexico, should be credited with making the first step toward bringing the meeting back to the purpose for which it was called. After stating the peculiar position of New Mexico in that it has very little market of its own and is prorated voluntarily to pipe line requirements, Dow introduced the following resolution:

"Resolved, that in principle we prefer voluntary cooperation among the states as opposed to federal control of production and suggest the continued study of the possibilities of an inter-state agreement for the voluntary coordination of the police powers of the states, through a committee representing the oil producing states."

Governor-Elect Allred protested the adoption of the motion and at the end of the meeting presented an amended motion.

J. T. Farrell of Ft. Worth, representing the governors of Arkansas and Louisiana, favored the continuance of 9-C. After Mr. Farrell had been heard from, the meeting was recessed for more than an hour during which time several resolutions were drawn up.

It is difficult for an observer, who did not have the opportunity of attending the closed portions of the hearing, to judge the success of the meeting. Although it is doubtful that an inter-state compact, which would greatly influence or control production in the various states, will ever become a reality, it appears that some sort of an inter-state agreement of committee is in the making. For the present the inter-state compact idea is not expected to reach beyond the study stage.

Production Control to Be Retained in Oil Industry

Washington, D. C.—Reorganization of the industrial recovery program to eliminate production and price control is not at the time believed in Washington to be applicable to the oil industry. Recommendations for amendment of the Industrial Recovery Act now are being completed by Donald Richberg, executive director of the National Emergency Council, for the consideration of President Roosevelt, who is expected to ask new legislation of the coming session of congress. These recommendations are understood to contemplate the removal of production and price restrictions in manufacturing industries, where they are felt to be adversely affecting recovery. But it is pointed out that similar action with respect to the oil industry would practically nullify the entire code, which except for the labor provisions, is throughout predicated upon a theory of production control. Any proposal for elimination of oil production control it is said would so greatly strengthen the case for federal control legislation as to make its passage through congress almost a surety. The net results would be that the industry had traded the control provisions of the code for infinitely stricter regulation.

» » THE WEEK'S NEWS « «
from All Fields

HIGH SPOTS IN BRIEF

THAT the year probably will close with an increase of new work was indicated by reports during the week that the three most active states had started more wells than were completed, Texas, Oklahoma and Kansas reported 283 new operations for the week while only 227 were completed in the same areas. All states reported 336 completions, including 203 new oil wells, with initial potential estimated at 488,000 barrels per day. (See tabulation page 44.)

South Texas

Commercial prooduction has been developed by Amerada Petroleum Corporation on an 85,000-acre block in western Frio County. The well is making 15 barrels of fluid hourly from 3936-50 feet, along with considerable gas. A new producing horizon was found in the O'Connor field, Refugio County. A 10,000,000-foot gas well has been completed in McMullen County wildcat territory. The Tuleta field, Bee County, was extended half a mile southwest. A wildcat in San Patrico County is showing for an oil producer.

Rocky Mountain States

A 10,000,000-foot gas well has opened the huge fault block area in the north part of the Garland Dome oil field, northern Wyoming. Additional gas has been cored in the test on Clay Basin structure, Daggett County, northeastern Utah. A severe storm has caused the well to be shut down. The first producing well within the Cut Bank townsite has exceeded expectations by pumping 175 barrels daily.

North Louisiana-Arkansas

The Sligo gas field of Bossier Parish, Northern Louisiana, was extended two miles northeast with a 16,000,000 cubic foot gas well. In Arkansas, the recent discovery of a commercial producing sand at 3360 feet in the Rainbow City field, Union County, caused new locations to jump to a six-year high last week.

Oklahoma

Discovery of Viola lime production did not open a new producing horizon for the Edmond pool, Oklahoma County, but extended the productive area one mile to the east.

North Texas

Productive limits of the Chalk Hill field, Archer County's only deep producing area, were partially defined on the west last week. At the same time the outlook for another deep oil pool in the county was enhanced by the discovery of oil in sandy lime and chert at 5147-5160 feet. The Jeffery deep lime field, Young County, has been extended one mile to the west.

California

An edge well in the Kettleman Hills field has proved a disappointment by making only 1200 barrels with 650 pounds pressure on the tubing and 1260 pounds on the casing. Another well in the field will have to be reworked due to water.

Gulf Coast

The Tomball field, Harris County, Texas, was extended three quarter mile to the east by a 325-barrel well. In Louisiana, the second commercial producer has been completed in the Gillis field, Calcasieu Parish. A new horizon in the Lake Washington area, Plaquemines Parish, is showing oil. A test near Reddell, Evangeline Parish, may be the discovery well of another pool. The Bosco field was extended 900 feet east.

West Texas

Three quarter mile north of the Denman field, Howard County, a well is flowing 120 barrels daily through a bridge. It is expected to make a large well when cleaned out. A wildcat east of the Hendrick field, Winkler County, had a gas blowout last week.

Edmond Tests Unexpectedly Find Viola Formation

Edmond, Okla.—Geologists were given something else to think about during the week when Mid-Continent Petroleum Corporation's Young 1, C SE SW NE 31-14n-3w, Edmond Pool, Oklahoma County, encountered Viola lime at 6243 feet and Simpson dense at 6265 feet. It was drilling ahead below 6285 feet after coring sandy lime from 6220 to 6240 feet. This test is slightly over a half mile northwest of Marathon Oil Company's H. J. Dahl 1, which missed Viola lime and is the second highest well on the structure. Young 1 was expected to miss Viola and find Wilcox sand at approximately the same minus depth at which it was found in Dahl 1. However, the fact that it encountered Viola lime does not definitely indicate that it will run lower than Dahl 1 which found top of the Wilcox sand at minus 5255 feet.

On a recent test Marathon Oil Company's Keefer 1, C NW NW NW 5-13n-3w, south offset to the discovery well and highest well on the structure, made 148 barrels in seven hours and was gassing at the rate of approximately 15,000,000 cubic feet through 2½-inch tubing. This well is estimated capable of producing upwards of 1000 barrels of high gravity oil and 75,000,000 cubic feet of gas if allowed to produce wide open through the casing. Gulf Petroleum Company of Oklahoma's Lindsay 1, NE NE SW NW 6-13n-3w, three-quarters of a mile southwest of production, was drilling below 5250 feet.

Oklahoma New Work Takes Sharp Upward Turn

Tulsa.—Under the influence of activities in the Fitts pool of Pontotoc County, the St. Louis area of Pottawatomie and the Fish area of Seminole County, new work increased in Oklahoma over 50 percent during the week. Pontotoc County led the state with nine first reports; Pottawatomie County had eight; Seminole County, seven; Creek and Osage Counties, five each; Noble County, four; Comanche County, three; Carter and Marshall Counties, two each; and Atoka, Muskogee, Okmulgee, and Stephens Counties, one each, a total of 50 first reports for the state.

One large well in the Fitts pool and 20 small scattered wells boosted initial production to 21,771 barrels calculated on a 24-hour basis. Two dry gas wells with combined initial volume of 23,500,000 cubic feet, one test spudded and abandoned, one location abandoned and 11 dry holes completed the report for a total of 36 completions which involved 81,410 feet of drilling, including 914 feet in one old well. Reports of the week were as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Fred Shores et al, Ratliff-Spears 1, se se se ne 29-1s-2w	*	610
COMANCHE COUNTY—		
Ashcraft & Palmer, Pope 4, ne ne ne sw 28-2n-10w	3	460
Pope 5, nw ne ne sw 28-2n-10w	3	458
CREEK COUNTY—		
Alma Oil Co., McKee 2, nw sw nw 7-17n-8e	*	....
HARPER COUNTY—		
Sinclair Prairie Oil Co., Neff 1, cnw nw se 21-26n-24w	*	7378
HUGHES COUNTY—		
Limestone Oil & Gas Co., Walker 14, cel ne ne 15-7n-8e	5	1225
Pittsburg Pipe Co., Moran 1, ne ne ne sw 30-7n-8e (owpb)	4	1866
JEFFERSON COUNTY—		
Farlyn Oil Co., Seay 26, nw nw se se 3-7s-5w	40	1275
JOHNSTON COUNTY—		
Gled Oil Co., Laten 1, sw se ne 26-2s-8e	*	2439
LINCOLN COUNTY—		
Kemp et al, Cook 2, se nw ne 23-17n-6e	*	....
Day Oil Co. et al, Rittenhouse 1, nw ne ne 26-14n-6e	*	4302
LOGAN COUNTY—		
Gypsy Oil Co. & Sinclair Prairie Oil Co., Manning 1, cnw nw 3-17n-4w	¶18½	4870
MUSKOGEE COUNTY—		
P. Boyle, Coleman 1, nw nw ne se 33-15n-17e	¶5	1170
OKMULGEE COUNTY—		
E. Price, Osborn 1-A, se ne ne ne 17-15n-14e	*	852
Dodge Brothers, Herrod 5-A, se se ne se 17-15n-14e	5	856
E. J. Lambert et al, Dunn 1-A, cwl ne nw 21-13n-14e	12	1659
Rutz, Derisaw 1-A, csw se 30-12n-12e	10	1232
Armstrong & McCloud, Wright 6, nw nw se sw 26-15n-14e	50	1578
OSAGE COUNTY—		
Texas Co. 3, se sw sw 28-23n-11e	8	1978
Sinclair Prairie Oil Co., Burbank S 4, ne ne ne nw 22-25n-6e	75	2773
Kasishke Oil Co., Swanson 2, nw se ne nw 21-25n-6e	125	2833
W. C. Norris, 5, nw se nw se 29-21n-11e	150	1937
PONTOTOC COUNTY—		
Midco Oil Co., Myers 2, se se se 21-5n-6e (owdd)	*	2705
Magnolia Petroleum Co., Harden 1, sw nw ne 30-2n-7e	150	4343
Blackstock et al, Craddock 1, ne ne se 25-2n-6e	19,112	4250
POTTAWATOMIE COUNTY—		
Blackwell, Austen 1, se ne ne 12-9n-4e	599	4240
F. D. Jones, Beal 1, sw nw sw 33-8n-4e	*	4337
Shell Petroleum Corp., Youts 1, nw nw sw 28-7n-5e (owpb)	238	4143
Hunton Oil Co., White 1, ne ne nw 18-7n-4e	272	3876
Maude Oil & Gas Co., Smith 1, ne ne sw 2-7n-4e	*	4118
SEMINOLE COUNTY—		
Moran et al, Brinlee 1, sw sw ne 27-6n-5e	*	2698
Carter Oil Co., Hallis 1, cw½ ne sw 18-10n-6e	864	4604
Amerada Petroleum Corp., L. Tiger 3, nw sw ne 3-8n-5e (owpb)	26	4015
STEPHENS COUNTY—		
Carter Oil Co., T. H. McCasland 1, cnw nw sw 22-1s-4w	*	5354
Eggleston et al, O. B. Turner 1, nw nw sw nw 2-2s-5w	*	485
TULSA COUNTY—		
Smith-Hughes et al, Trigley 1-A, sw sw ne nw 24-17n-12e	20	2306

*Failures; †Junked; ¶Million cu. ft. gas.

New Producing Horizon Mile East of Lucien Pool

Perry, Okla.—Outstanding news of the week in Oklahoma came from the Lucien pool, nine miles southwest of here in southwestern Noble County, when Sinclair Prairie Oil Company extended production one mile east, and found first commercial Viola lime production in the area. The test, Cawood 1, C SW NW 27-20n-2w, had a showing of oil in Misener sand at 4955 feet, topped Sylvan shale at 4963 feet, Viola lime at 4970 feet and set seven-inch casing at 4979 feet. Plugs were drilled and the hole carried to 4983 feet where it blew in making an estimated 15,000,000 cubic feet of gas. After being shut in for a short time it was reopened and flowed a solid seven-inch stream of oil for several minutes before it was again shut in for the erection of storage.

Principal production in the pool is found in the Wilcox sands at approximately 5100 to 5200 feet. One well in the northwest quarter of 16-20n-2w, is a small Hunton lime producer. The finding of Viola lime production in the new spot came as a distinct surprise to many who had considered the area low, in view of tests drilled more than a mile to the north of it.

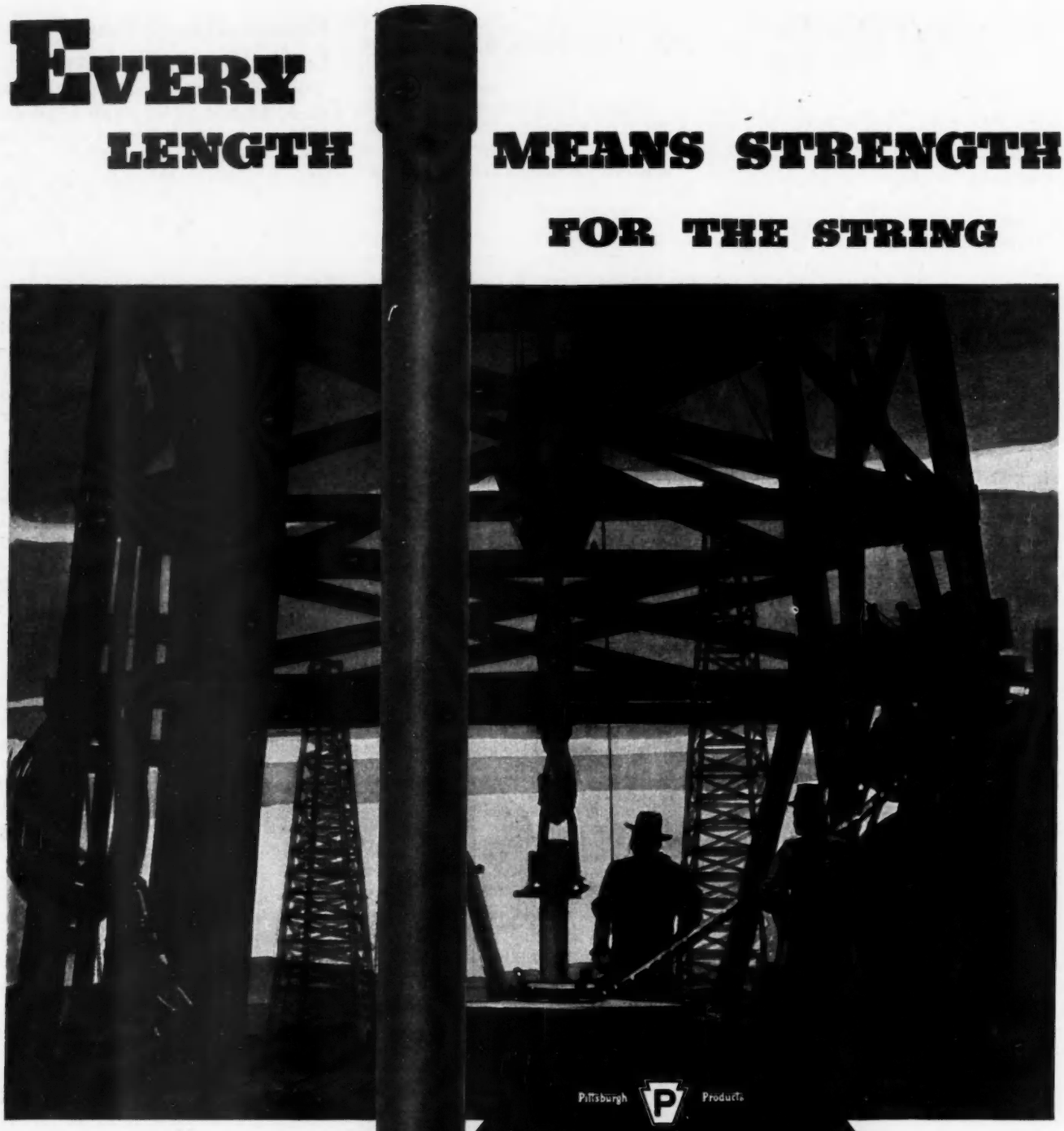
Fitts Well Threatens To Blow Out of Control

Ada, Oklahoma.—One of two tests due for completion in the Fitts pool, Pontotoc County, within the next few days was giving the operators considerable trouble as it tried to blow out. Ed H. Moore et al's Akers 1, NE NW NE 36-2n-6e, three locations south of production, topped Bromide at 4151 feet, logged the upper sand at 4160 to 4170 feet and drilled to 4275 feet where it had to be killed with mud under 800-pound pump pressure. Late reports show the test reconditioning mud and preparing to drill deeper.

Crosbie et al's D. Harden 1-A, SW SW NE 30-2n-7e, twin to a Hunton lime gas well, logged upper Bromide sand at 4150 to 4185 feet and was running tubing to wash in. Magnolia Petroleum Company's Harden 2, SE NE NW 30-2n-7e, flowed 1398 barrels in five hours through the casing from 4335 feet.

Guthrie, Oklahoma.—Sinclair Prairie Oil Company's School Land 1, C SE 36-17n-1w, nine miles east of here and four miles southeast of the Langston pool in eastern Logan County, was drilling below 3825 feet.

EVERY LENGTH MEANS STRENGTH FOR THE STRING



Pittsburgh Products

Pittsburgh Seamless

DRILL PIPE
CASING
TUBING

Standardized processes of manufacture assure an equality of strength in every length of Pittsburgh Seamless Drill Pipe and Casing. You can depend upon each unit for the dependability of the string.

PITTSBURGH STEEL COMPANY

PITTSBURGH • PENNSYLVANIA

New York Detroit Chicago St. Louis
Tulsa Los Angeles Houston

Kansas Well Allowable Classification Rearranged

Wichita, Kansas.—Due to rapid development in new pools of western Kansas the state Corporation Commission has revised its classification as to size of wells effective as of December 1, 1934. In many instances it has been found necessary to make wide changes in percentages of allowable per month due largely to the wide spread between some of the classes based on size of potential. Heretofore the classes have been separated by five barrels in from zero to 50 barrels; 10-barrel steps from 50 to 200 barrels; 20-barrel steps from 200 to 300 barrels; 25-barrel steps from 300 to 400 barrels; 50-barrel steps from 400 to 600 barrels; 100-barrel steps from 600 to 1000 barrels; 200-barrel steps from 1000 to 1400 barrels; 300-barrel steps from 1400 to 2000 barrels; and one 500-barrel step, making the largest well classification 2000 to 2500 barrels. Each class is granted a separate percentage of allowable.

In the new order the same plan is followed from 0 to 550 barrels where a 50-barrel step is begun and carried to 1050 barrels. From that point upward the steps are by 100 barrels making the highest classification 3250 to 3350 barrels. Daily allowable for the state was set at 123,900 barrels to conform to the federal allocation for December. Potential for the state as of December 1, 1934 is shown to be 368,038 barrels from the 19,381 wells.

Burrton-Haury Well Makes Large Potential Flow

Hutchison, Kansas.—Olson Oil Company's Downie 2, SW SE NE 14-23s-4w, in the central portion of the Burrton-Haury pool of northeastern Reno County, flowed 6000 barrels in 16 hours on potential gauge near the end of the week. Production is from Hunton lime at 3588 to 3606 feet. This is the third largest well yet completed in the pool and is among the larger wells completed in the last 15 years in the state.

Kansas Operators Final Ten Tests

Wichita, Kansas.—Kansas activities showed a net increase during the week, although new work fell off approximately 25 percent, as 21 first reports were made and 18 operations completed. Russell and Reno Counties were tied for the lead in new operations with five first reports each; Rice County was second with four; and Butler, Chase, Ellsworth, Harvey, McPherson, Pratt and Sedgwick had one each.

Included in the completion report were 10 new wells with combined oil initial of 8952 barrels, one dry gas well with initial volume of 18,000,000 cubic feet, two abandoned rigs and five dry holes which involved 44,940 feet of drilling, including 511 feet in one old well.

Reports of the week are shown below:

Company, Well and Location	Init. Prod. Bbls.	Depth
COWLEY COUNTY—		
Lewis Production Co., Roberts 2, se ne sw 12-32s-4e	*	2600
ELLSWORTH COUNTY—		
Ainsworth, Charavat 1, ne nw ne 33-15s-10w	*	3323
Slick et al, Breford 2, se sw nw 7-17s-10w	378	3383
GREENWOOD COUNTY—		
Texas Co., D. A. Edwards "E" 1, ne nw ne 32-24s-12e	*	1828
McPHERSON COUNTY—		
Shell Petroleum Corp., Myers 9-B, cel s½ se 14-19s-2w	62	3375
Janes, Flook 3, ne se ne 1-20s-2w	*	....
RENO COUNTY—		
National Union Co., Ackley 2, nw ne se 14-23s-4w	7170	3598
Olson Oil Co., Duckworth 2, cne ne 23-23s-4w	¶18	3325
RICE COUNTY—		
Texas Co., West 6, nw nw nw 21-20s-10w	100	3345
Moore et al, Browning 1, ne ne se ne 31-19s-9w	*	....
Lario Oil & Gas Co., McFarland 3, ne ne sw 7-20s-9w	120	3295
Slick et al, Schurr 6, sw nw sw 21-20s-10w	370	3300
Wright-Day, Gray 1, se se nw 27-21s-7w	*	3852
RUSSELL COUNTY—		
Central Petroleum Co., Sutton 3-A, ne sw ne sw 5-12s-15w (owdd)	42	2795
Central Petroleum Co., Cortland 1-C, ne ne nw 4-14s-15w	448	3075
Empire Oil & Refining Co., Bender 2-B, sw se se 23-15s-14w	223	3354
SEDGWICK COUNTY—		
Spencer, Underwood 1, nw nw nw 26-25s-1w	39	2776
Cromwell, Roeder 1, sw sw nw 23-27s-2w (owpb)	*	3085

*Failures; †Junked; ¶Million cu. ft. gas.

Small Well Finished In Oklahoma City Pool

Oklahoma City.—Decline of initial production in the Oklahoma City pool is forceably exemplified by the completion of Knox Garvin et al's Central Addition 2, C W½ SW NE SE 3-11n-3w, which made 441 barrels in 24 hours and was estimated making 4,000,000 cubic feet of gas from Wilcox sand at 6270 to 6344 feet. This is in the northern portion of the pool where 20,000-barrel wells were not uncommon a few years ago. However, the area immediately surrounding Central Addition 2 was one which did not yield wells of the size encountered elsewhere in the southeast quarter of that section.

Crescent, Oklahoma.—Mid-Continent Petroleum Corporation's Campbell 2, SE SE NE 33-17n-4w, in the Crescent pool of western Logan County, was drilling below 5450 feet.

Burrton-Haury Pool Leads Kansas Activity

Hutchinson, Kansas.—The Burrton-Haury pool, eight miles east of here in northeastern Reno County, stands far out in the lead among Kansas areas with 34 tests; eight rigging up, spudding or drilling. Of this number 18 are in the northern portion of the area and 16 in the southern. Barnsdall Oil Corporation's Sabine 2-C, C SW NW SE 11-23s-4w, first test in the area to find commercial production in the Siliceous lime, was plugged back from that horizon and running tubing to test Hunton lime. Operators state the Siliceous lime was commercial but that they do not care to produce it at this time, apparently in view of the much larger production to be obtained from the main producing horizon, which is Hunton lime. Other operations of the Barnsdall Corporation were as follows: Sabine 3-C, C NE NE SE 11-23s-4w, drilling below 534 feet; Sabine 4-C, C SE NE SE 11-23s-4w, drilling below 3107 feet; Sabine 5-C, C SE NE SW 11-23s-4w, drilling below 710 feet; and Baughman 3, C SE SE NE 34-23s-4w, drilling below 1925 feet.

Gypsy Oil Company's M. E. Sabine 1, C SW SW NW 13-23s-4w, was rigging up rotary tools and expected to be under way before the end of the week; and its L. Krehbiel 5, C SW NE 35-23s-4w, a test whose objective will be the chat horizon, had set surface pipe and was drilling ahead below 1290 feet.

Olson Oil Company, the largest operator in the area and now the possessor of the largest flush potential in the state of Kansas, had 11 operations under way as follows: Downie 3, SW SW NE 14-23s-4w, digging surface hole; Dowie 4, NW NW NE 14-23s-4w, rigging up rotary tools; Downie 5, SE SE NE 14-23s-4w, skidding rig from Downie 2 which is a recent completion; Blake 3, C SW SE 23-23s-4w, drilling below 1095 feet; Blake 4, SW SE SW 23-23s-4w, spudding; England 1, C SW SE 34-23s-4w, drilling below 3302 feet had estimated capable of flowing 15,000,000 cubic feet at the present depth; Goering 4-B, C SW NW NW 35-23s-4w, waiting on acid reaction with total depth at 3592 feet; Goering 6-B, SW SW NW 35-23s-4w, drilling below 1900 feet; Goering 7-B, C SE NW 35-23s-4w, drilled to 2500 feet, found the hole crooked and plugged back to approximately 1500 feet to straighten; Adkins 3, NW NW SW 35-23s-4w, location; and Adkins 4, C NE SW 35-23s-4w, location.

West Texas to Get Another 10,000-Foot Ordovician Test

San Angelo, Texas.—Heavy duty combination rig is being assembled by Gulf Production Company for the drilling of a projected 10,000-foot wildcat in western Crane County to try for production in the Ordovician lime horizon. The company holds the depth record for Texas through the drilling of J. T. McElroy 103, Upton County, to the 10,978-foot level, where it is temporarily shut in after testing 22 barrels of high gravity oil and 145 barrels of salt water on November 22.

The company's second deep test for West Texas is to be drilled on the W. N. Waddell ranch, C NW NW Section 4, Block B-27, PSL Survey, about 2¼ miles northwest of a wildcat oil and gas producer in the Tubb area. It also is about 6½ miles southeast of a 4983-foot failure drilled earlier this year by Gulf Production Company's Edwards 1-D, SEc Section 21, Block B-18, PSL Survey, Crane County. Approximately 42,000 acres are held under lease by Gulf Production Company in vicinity of its Waddell location, which was selected after extensive geophysieal, sub-surface and core drill activity.

A new 136-foot steel derrick, with a 26-foot base, has been purchased for the drilling of Waddell 1. Hand-picked drilling crews will be employed by the company to operate the rig. Plans are to drill with cable tools to the 5000-foot level, where 10-inch casing will be cemented, and heavy rotary equipment will then be pressed into service to penetrate the hard lime and chert expected above the Ordovician.

An ample supply of natural gas for fuel is available for drilling of this deep test from the discovery well of the Tubb area, which was opened in October, 1930, and continues to flow about 40 barrels of oil daily. The producer was drilled by Gulf Production Company and Truett B. Cranfill on the J. B. Tubb land, SEc NE Section 8, Block B-27, and was completed in 4300-foot lime pay after plugging back from 5336 feet in April, 1931, for a shot and it was later treated with acid.

Drilling is to be resumed by Gulf Production Company on McElroy 103 immediately after the holidays, and in the meantime the well is constantly building up pressure while shut in. Due to the absence of positive geological markers, it is not known if the record depth test for the state has reached the Ordovician. However, plans are to make a decisive test to the Ellenberger member, if mechanically possible.

Checking considerably lower structurally than anticipated, the Ordovician test of Skelly Oil Company et al on University lands, Skelly-Utah area, Reagan County, had progressed below 8625 feet logging shale with streaks of lime. It is about seven miles southeast of the Big Lake field, site of the only Ordovician lime production in West Texas, and is contracted to go to 8700 feet. A new contract is being prepared to deepen the Glasscock County deep test of John I. Moore, Loffland Brothers et al on the L. S. McDowell ranch after fulfilling original contract at 7508 feet.

Three Ordovician lime tests are under way in Schleicher County. John M. Cooper et al's Bert Page 1 has progressed below the 5900-foot level. Humble Oil & Refining Company's Ike Honig 1 has been delayed by a fishing job at 5937 feet. W. C. Proctor, Kemper Kimberlin et al's Judkins-Spencer (Pure) 1, shut down to finish rigging up rotary after spudding.

Well North of Denman Pool Is Good Producer

San Angelo, Texas. — Flowing production developed by Iron Mountain Oil Company's C. D. Read 1, located about three quarters of a mile north of Denman field, Howard County, after heavy shot of nitro in dolomite lime formation has attracted three offset locations. The well was flowing 120 barrels daily through bridge with considerable gas pressure, according to Harold G. Neely, president, several days after shooting with 790 quarts of nitro at 2760 feet. The well is expected to become one of the largest in the area upon the removal of the bridge, as it developed a hole full of oil prior to shot. It is located in the SEc SE¼ Section 46, Block 30, T-1-N, T&P Ry. Survey. An east offset is being started by Clay, White and Gibson & Johnson, while the Herschbach Petroleum Corporation is moving in for a southeast offset. W. B. Eyssen and associates are to drill a south offset.

Two wells in the Sayre pool, Winkler County, were in process of completion towards the end of the week. Sinclair Prairie Oil Company's H. E. Cummins 1, SEc N½ Section 11, Block 26, P.S.L. Survey, a northwest offset to the discovery well, encountered oil pay at 2865-2885 feet. Operations were halted at 2887 feet to cement seven-inch pipe at 2715 feet, using a high casing seat so as to include sandy lime carrying oil saturation above the main pay. This well is checking about normal with the lone producer in the area. Magnolia Petroleum Company's J. B. Walton 4, SWc Section 1, Block 26, situated about three quarters of a mile north of the producer, is drilling into the lime pay with rotary after cementing seven-inch pipe at 2761 feet, or about 300 feet below the first lime marker.

Fox-Butler and T. J. Jefferies' Brown-Altman 1, NEc N½ SW Section 6, Block B 5, a wildcat trying for production in the sandy-lime belt lying east and parallel with the Hendrick field, experienced a gas blowout at 2575 feet. The gas caught fire and damaged the rig. J. C. Maxwell et al's Oscar Clapp 1, SEc NE¼ Section 37, Block 26, a second wildcat in the same area, has drilled below 2540 feet, having topped the lime marker about five feet lower than the nearby gasser.

North Texas Proration Burden Is Lightened

Wichita Falls, Texas.—Proration burdens of North Texas operators were relieved slightly on December 6 when Jack Elliott, railroad commission deputy supervisor, announced that all wells subject to proration would be permitted to produce 10 percent of their potential rating that exceeds the fixed marginal well quota. The district was cut from 10 to five percent on October 1, 1934, because of new completions boosting the district's output above its allocated sum of 56,500 barrels daily. Refusal of crude purchasers to absorb the excess was also a factor in forcing the cut. However, demand for crude in the district is registering a stronger tone, with independent refiners threatening to set the pace for well connections should prices on refined products fulfill the anticipated advance. The commission retains its old rule of limiting acid treated wells in Archer County to a maximum potential of 300 barrels in determining proration quotas.

Upton County Leads West Texas Completion Work

San Angelo, Texas.—West Texas accounted for 14 completions during the past week, including three failures and a junked hole. The combined initial output of the 10 producing wells was estimated at 5130 barrels.

Upton County stood out as the largest contributor of new production. Gulf Production Company's Crier-McElroy 12, Gulf-McElroy area, made a natural flow of 1130 barrels of oil and 1,250,000 cubic feet of gas after drilling into saturated lime at 2813 feet. The company has sev-

eral hundred proven and attractive locations awaiting the drill in this area.

Completion of Stanolind Oil & Gas Company's J. M. Cowden 10, C NW SE Section 34, Block 43, T-1-N, rated at 898 barrels daily after shot in lime at 4068-4260 feet gives the North Cowden field, Ector County, 30 oil producers. These wells are prorated to 1300 barrels daily. A revival of active drilling in the field is slated to start at the turn of the year, as limitations placed on total number of wells for 1934 forced some of the largest lease owners to stack their rigs several months ago.

Completions in West Texas during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY—		
Roland S. Bond et al, W. D. McCarley 1	*	5001
Humble O&R Co., J. S. Means 1	500	4527
ECTOR COUNTY—		
Stanolind O&G Co., J. M. Cowden 10	900	4260
FISHER COUNTY—		
The Texas Co., 1st Nat'l Bank (Rotan) 1	*	3244
GLASSCOCK COUNTY—		
Humble O&R Co., W. R. Settles 8	755	2417
W. P. Luse & W. L. Pickens, Lee Bros.-Pure 2	70	2188
RUNNELS COUNTY—		
Golden Pet. Co., McMillan-Sun 5	50	2514
TAYLOR COUNTY—		
J. B. Dunigan & Brahamey, A. W. Hunter 2-A	*	2615
UPTON COUNTY—		
Gulf Prod- Co., Crier-McElroy 11	100	2883
Crier-McElroy 12	1130	2813
Stanolind O&G Co., A. S. Burleson 34	420	2030
WARD COUNTY—		
California Co., J. F. York 14-A	140	2525
Sid Richardson et al, W. D. Johnson-Sun 9-B	1065	2580
CRANE COUNTY—		
S. S. Strauss et al, J. H. Phelps 1	†	454

*Failures; †Junked; ¶Million cu. ft. gas.

Hutchinson County Gets Three Good Producers

Pampa, Texas.—Hutchinson County contributed the three largest oil producers added in the Texas Panhandle during the past week. There were eight completions, including six oil wells having a combined initial yield of 2100 barrels daily. There was a junked hole, and a dry gas well rated at 13,000,000 cubic feet daily.

Brownie Oil Company's R. C. Ware 1, NWc E½ SW Section 124, Block 4, I&GN Ry. Survey, was given a potential rating of 750 barrels daily after shot of 630 quarts of nitro in lime at 2957-3122 feet. It topped the list of new wells in Hutchinson County. Texas Plains Oil Company's E. E. Watkins 1, SWc SE¼ Section 72, Block "Z," HE&WT Ry, Survey, made an initial yield of 525 barrels daily after shot of 350 quarts in lime at 2925-2984 feet.

Progress has been slow on The Texas Company's W. H. Taylor 1-C, Gray County wildcat that has been promising to make an oil producer from dolomite lime on the south flank of the granite ridge, with a spray of 10 barrels oil daily showing at 2885-2888 feet. It has drilled below the 2895-foot level without boosting the oil flow. This well is about 3½ miles southeast of nearest production. The Texas Company et al have moved in equipment to drill another Gray County wildcat, having made location for W. H. Taylor 1, 990 feet out of the NWc of S½ Section 81, Block B-2, H&GN Ry. Survey, or about 1¾ miles southeast of The Texas Company's Furneaux 1, which gave promise of making an oil producer in 3200-foot lime formation, but abandoned at 3415 feet.

Detailed list of completion in Texas Panhandle during past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
C. E. Christy et al, A. E. Gethings 1	50	2679
Empire Gas & Fuel Co., H. T. Bender 3	265	3240
Suloch Oil Co., J. S. Morse 4	200	2642
HUTCHINSON COUNTY—		
Brownie Oil Co., R. C. Ware 1	750	3122
Huber Pet. Co., M. E. Dunnaway 3	¶13	2620
Johnson 3-C	†	2550
Texas Plains Oil Co., E. E. Watkins 1	525	2984
U-Tex Oil Co., R. C. Ware 1-B	310	3075

*Failures; †Junked; ¶Million cu. ft. gas.

Chalk Hill Field Is Partially Defined

Wichita Falls, Texas.—Productive limits of the Chalk Hill field, Archer County's only deep producing area, were partially defined on the west when Deep Oil Development Company's L. F. Wilson 1-A yielded salt water from Canyon lime at 2213-2219 feet. It is located 1339 feet south and 330 feet west of the NEc of Lot 6, Section 118, ATNCL Survey, offsetting production on the west. Reports credit officials of the company with planning to deepen this test to the 3650-foot level to try for production in the Strawn lime. The company's L. F. Wilson 1, lease 5-A, west offset to the discovery well of the 2200-foot horizon, scored a 100-barrel pumper in April, 1932, after plugging back from 5750 feet to lime pay at 3614-3638 feet.

Outlook for the opening of a second deep oil pool for Archer County took a favorable turn last week when W. B. Hamilton et al's D. C. Giddins 2, located about two miles north of Anarene and 12 miles southwest of the Chalk Hill area, developed 600 feet of oil in the hole from sandy-lime and chert at 5147-5160 feet. It was deepened to 5163 feet, logging black shale for the last three feet. A good show of gas is also reported. Operations have been temporarily suspended at the well. The hole was drilled with rootary to 4741 feet, where seven-inch pipe was cemented. The well is located 1715 feet from the north and 1600 feet from the west lines of the A. McMillan Survey A-275. Hamilton and others control leases on a large block of surrounding acreage.

Decline in field work in Archer County was reflected by a lull in the volume of completions in North Texas last week. The district reported 14 shallow oil producers, having an aggregate of 1710 barrels of new production and 13 dry holes.

Completions in North Texas during the past week follow:

Company, Well and Location	Init. Prod. Bbls	Depth
ARCHER COUNTY—		
Fain-McGaha Oil Corp.-Humble, Logan 44	125	1121
W. B. Hamilton et al, W. I. Pace 23, Blk 99	100	1173
Kittery Oil Co., T. V. Carr 6, Sec. 2437	125	1398
E. B. Madden et al, J. T. Richardson 22, Blk. 1	*	1325
Obermeyer & Lyon, Mrs. H. S. Griffin 1, Sec. 8	*	1825
Perkins-Cullum Oil Co., Falls 116, Blk 13	55	1130
Falls County 121, Blk. 34	70	1130
BAYLOR COUNTY—		
Bridwell Oil Co., Chas. Schindler 1, Sec. 3142	*	1512
COOKE COUNTY—		
Geo. L. Pace et al, A. J. Dennis 1	*	1657
JACK COUNTY—		
Moso Oil Co., J. J. Powers 2	*	300
MONTAGUE COUNTY—		
O. V. Beck et al, C. L. Davenport 9	450	1734
Bridwell Oil Co., Mrs. W. B. Gist 4	50	1254
Conoco & Seitz-Comegys & Seitz, Inc., Hott 5-A	110	1638
WICHITA COUNTY—		
L. T. Burns et al, G. W. Bailey-Conoco 7	10	1334
Fresno Oil Co., R. W. Ramming 10, Sec. 1	*	1880
L. V. Hull et al, S. B. Burnett 9-E, Sec. 7	*	886
John O'Neal et al, Burnett 1, Sec. 1	*	884
I. B. Perskey et al, Foster-Allen 2, Sec. 1	*	1000
Reed-Glass & Crenshaw, Allen-Kemp 12-B, Sec. 26	*	464
J. H. Turner et al, M. Robinson 1, Blk. 310	*	1350
WILBARGER COUNTY—		
Lido Oil Co., Waggoner 8-C, Sec. 51	150	2461
Luther Webb et al, Waggoner 8-E, Sec. 22	125	1894
YOUNG COUNTY—		
Cable Oil Co., L. Snider 31	*	612
Holbrook & Woods, J. R. Jones 1, Sec. 1400	*	945
B. N. Honea et al, Fee 7, Sec. 1492	15	924
Knight Oil Corp. et al, G. B. Hamilton 4, Sec. 1394	300	884
Medico Oil Co., E. Leslie 3, Sec. 1400	25	943

*Failures; †Junked; ¶Million cu. ft. gas.

The Texas Company Sells Mexia Producing Properties

Mexia, Texas.—The Texas Company has withdrawn as a producing unit in the Mexia field, oldest Woodbine sand area in Texas, through sale of its holdings to The Girard Corporation, Dallas. The consideration was not revealed. This deal was consummated last week, but made retroactive to November 16. It involved five leases, with 18 pumping wells having a combined output of about 300 barrels of oil daily. A standard rig is in place at each well. Approximately seven barrels

of salt water is lifted with each barrel of oil produced.

The Girard Corporation has been specializing in buying stripper wells in the old Woodbine sand areas, having purchased all Humble Oil & Refining Company's properties in the Corsicana-Powell field several years ago, besides several smaller acquisitions. Plans are to launch a general workover campaign on each of the Mexia leases, while some consideration is being given to the installation of a gas repressuring unit. F. O. Hodgden, Corsicana, is general production superintendent, and J. T. Archer is superintendent in the Mexia field.

20 Percent of East Texas Completions Fail to Flow

Tyler, Texas.—Approximately 20 percent of the 63 completions credited to the East Texas field during the past week failed to register a natural flow. Potential gauges were established by swabbing, pumping, or with the aid of air-gas lift devices. These new additions to the growing list of non-flowing wells were drilled along the east and north flanks of the structure, being in areas that have sustained sharp declines in reservoir pressure in recent months. The Joiner, or south portion of the field, accounted for eight of the new wells that required lifting equipment to produce their proration allowable.

Three minor extensions for the productive limits of the field were scored. Marathon Oil Company's Sam Overton 1, NWc of 185.85-acre tract, B. F. Poindexter Survey, Rusk County, widened the oil area about 1600 feet to the west with a natural flow of 80 barrels of oil per hour through two-inch tubing after drilling two feet into the sand. It has a depth of 3618 feet, or 3305 feet below sea level, and was considered a doubtful location because of close proximity to water. Lipscomb, Southern and Thurmond's R. L. Martin 1, SEc of 29.58-acre lease, W. P. Chism Survey, ventured close to the water zone on the west side of the field in southern Gregg County in scoring a producer at a sub sea depth of 3317 feet. This well flowed at rate of 90 barrels per hour through tubing after drilling about two feet into the sand topped at 3647 feet. J. Beren et al's Wm. Brittain 1, SWc of 30-acre lease and J. C. Barnett Survey, extended production about 1000 feet to the east in northern Rusk County, flowing 21 barrels per hour from broken sand at 3573-3620 feet, with an elevation of 415 feet.

Burwin Oil Corporation added two nonflowing wells in the Joiner area, while one each was completed by Carter et al, Humble Oil & Refining Company, Hamilton Petroleum Company et al, Marathon Oil Company, Petroleum Marketing Corporation and Phillips & Bennett. The Kilgore townsite area added two such wells by Tom Potter et al and Harry Shulman and others. Harry Moss et al's Fannie Marshall 10, located on south line of 38.93-acre lease, M. Van Winkle Survey, has been shot with 35 quarts of nitro in tight sand at 3511-3537 feet after failing to flow. Only a small percentage of the wells in the field have been shot, and in nearly every instance shooting has been on the east edge of the structure. Humble Oil & Refining Company's J. M. Adams 6, John Ruddle Survey, swabbed 23 barrels of oil per hour from tight sand at 3433-3467 feet. The Fla-Tex Corporation's J. T. Jones 2, located on north rim of the field and on 57.9-acre lease, Wm. King Survey, Upshur County, was completed as a 110-barrel pumper after drilling to 3765 feet, or 3321 feet below sea level.

Appearance of salt water at an abnormally high sub sea depth in Marine Corporation's L. D. Crim 5, located on 30-acre lease, W. P. Chism Survey, Gregg County, has been traced to a split joint of casing. Initial efforts to complete the well early in November at 3606 feet, or 3281 feet below sea level, resulted in salt water. It was plugged back 3599 feet, 3590 feet and finally to 3583 feet, or three feet below the top of the sand with the same results. Insertion of a packer on the tubing developed that the water was making its appearance from above the Woodbine. A new string of 5 3/16-inch pipe has since corrected the leak, and dispelled the apprehension felt over this freakish development. A high water table condition exists in the Cordova Survey, located west of London, and it now is believed that the water is due to defective casing in one or more nearby wells instead of an abnormal rise in the water level.

Detailed list of completions in the East Texas field for the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Burwin Oil Corp., M. Smith-Humble 4	100	3690
M. Smith-Humble 5	150	3738
Carter et al, W. H. Frederick 1	350	3650
W. J. Collins et al, Ras Redwine 3	500	3580
W. H. Gant-Garvin-Wegener, W. P. Moore 17 (70.06-a)	750	3630
Hamilton Pet. Co.-Jenkins Bros., Jobe 22 (109-ac)	800	3620
Hammond Oil Co., M. Pool-Panhandle 2	4600	3800
Haynes Oil Corp., J. T. Brown 9 (40-ac)	7000	3717
Humble, Geo. Alexander 6 (156.01-ac)	1000	3719
S. A. Plowman 36-A (228½-ac)	9600	3693
T. A. Johnston & John Owens, J. Jackson 5 (50-ac)	9000	3760
K. O. T. Oil Co., S. S. Cook 9-A (46.66-ac)	8500	3756
Lide-Tayloe Oil Co., C. Young 6 (40-ac)	2000	3720
Tom Looney et al, D. Bradford 2	1000	3626
C. H. Lyons et al, W. P. Moore 5 (40-ac)	1500	3611
Marathon, D. Ledbetter 15 (212.48-ac)	9000	3678
R. G. Mason 11 (103.53-ac)	175	3667
Sam Overton 1 (185.85-ac)	7000	3618
Petroleum Marketing Corp., Frederick 2 (4-ac)	100	3640
Phillips & Bennett, E. B. Alford 2 (5-ac)	160	3730
Shell, Wm. Jobe 5 (20-ac)	5000	3700
Sun, Mrs. A. V. Ritch 6-A (99-ac)	8000	3705
Texas-Jersey Oil Corp., W. P. Keeling 6-A (5.72-ac)	4600	3795
Wainwright-West Oils, Ltd., Pinkston 2-B	8000	3660
C. E. West & Trentman, T. O. Jackson 2 (3.4-ac)	6800	3778
KILGORE AREA—		
J. Beren et al, Wm. Brittain 1 (30-ac)	1000	3620
Robt. Bowles Oil Co., D. Wells 11 (100-ac)	7000	3700
Gulf, R. Russell 8 (40.72-ac)	8100	3615
Humble, L. D. Crim 125 (914.51-ac)	9000	3720
L. D. Crim 130 (914.51-ac)	10,500	3710
Ben F. Laird 12-A (100-ac)	9600	3635
J. N. Peterson 30 (222.1-ac)	4500	3636
Lipscomb-Southern & Thurmond, R. L. Martin 1 (29.58-ac)	8500	3649
H. L. Lockhart et al, M. B. Weiss 1-A (3-ac)	10,000	3656
Magnolia, R. B. Walls 7 (26-ac)	10,500	3664
McAlester Oil Corp., Sabine River 1-M, Tr. No. 7	8400	3528
Tom Potter et al, Daniel-Thompson 1	175	3553
Harry Schulman et al, Jim Dorris 2 (1.78-ac)	100	3550
Shell, Williams-Bonner 6 (36-ac)	7000	3596
Tide Water, J. M. Blackman 11 (80.87-ac)	8000	3650
Graddy H. Vaughn et al, J. T. Sexton-Humble 2 (20-ac)	500	3700
LONGVIEW AREA—		
Alco Royalty Corp., A. N. King 2-A (10-ac)	11,000	3663
Bonds-Dillard Drl. Corp., D. M. Meyer 8 (41½-ac)	9300	3570
Fla-Tex Corp., J. T. Jones 2 (57.9-ac	110	3764
Gulf, M. O. Sheppard 38 (386-ac)	6000	3507
Humble, J. M. Adams 6 (100-ac)	500	3467
C. C. Clemmons 8 (75.2-ac)	7600	3679
W. W. Holland 24 (201-ac)	10,000	3640
Dollie Bell Key et al, Hobart Key 1 (1.74-ac)	10,000	3551
Magnolia, R. A. Adkins 15 (100-ac)	9700	3680
Oil, Inc., A. J. Sanders 10 (73.63-ac)	5500	3647
Shell, S. C. Fishburn 10 (100-ac)	8600	3547
Stanolind-Simms, J. C. Persons 17 (151.18-ac)	9600	3516
J. C. Persons 18 (151.18-ac)	10,400	3530
J. C. Persons 19 (151.18-ac)	12,000	3535
J. C. Persons 20 (151.18-ac)	9700	3535
J. H. Boles 4 (30-ac)	12,000	3599
Stroube & Stroube, R. J. Mackey-Humble 19 (314.6-ac)	1500	3639
Sun-Texas Seaboard, J. M. Haynes 24 (203-ac)	9300	3654
W. C. Turnbow Pet. Corp., McGrede 1 (2½-ac)	12,000	3690
Tysco Oil Co., Geo. Anderson 5	7000	3521
Yount-Lee, F. Smith 8 (73½-ac)	9300	3574
Julia Snoddy 6-B (51-ac)	9200	3613
MISCELLANEOUS		
VAN ZANDT COUNTY (Van field)—		
Pure Oil Co., G. C. Stewart 5 (50-ac)	1000	2962
The Texas Co., W. White 3 (35-ac)	10,000	2959
Jonh Wrather et al, G. W. Carter 3 (144-ac)	3600	2960
WILDCAT		
HENDERSON COUNTY—		
Great State Oil Corp., R. Sid Ansley 1	†	2650
RAINS COUNTY—		
Bryant & Speer, Mrs. S. A. Jones 1.	*	1800
EAST TEXAS BORDER COUNTIES		
CASS COUNTY—		
R. Kamon et al, I. O. Savage 1, Mary Patterson sur	sw	4016
PANOLA COUNTY—		
W. H. Nichols et al, Spence Ray 1, W. M. B. Culver sur	*	2080

*Failures; †Junked; ¶Million cu. ft. gas.

Camp Hill Wildcat Gets Salt Water in Woodbine

Palestine, Texas. — The Camp Hill area, Anderson County, wildcat project of Gulf Production Company on the M. A. Davey & Tucker Royall 174-acre tract, M. Rogers Survey, has been eliminated as a probable oil producer after yielding salt water with no show of oil or gas on drill stem test from Woodbine sand at 5195-5221 feet. It will be deepened for geological information, then plugged back for further test of gas pay found in Sub-Clarksville sand member of the Eagleford shale at 5045-5600 feet. Hopes maintained by East Texas operators for the annexation of a third oil strike in the Woodbine belt during 1934 were shattered by this disappointment, as there are no other promising tests on the horizon. Intensive exploration work carried on throughout the year has yielded the Cayuga field, which is largely held by the discovery companies, and the Rusk area, a one-well pool in Cherokee County. However, Freestone and Leon Counties added gas areas from the Woodbine within the year.

Presence of strong gas pressure in the Sub-Clarksville, an unusual condition in the Woodbine belt, was considered a favorable omen for the Camp Hill project, as it also registered a high structural position in correlating chalk markers with previous tests in the general area. The Woodbine was encountered at 5176 feet, or 4604 feet below sea level. Drill pipe filled 2000 feet with salt water when formation tester was opened for 10 minutes with ⅜-inch chokes on top and bottom.

Cherokee County gained another dry hole last week when Leetex Oil Company and Devonian Oil Company's J. J. Tullis 1, M. M. Johnson Survey, situated about five miles southeast of the Rusk pool, found salt water in Woodbine section at 5246-5250 feet. It was ordered plugged without the customary drill stem test. Other completions during the week consisted of a junked hole at 2650 feet in the Great State Oil Corporation's R. Sid Ansley 1, Henderson County wildcat, at 2650 feet, and the shallow failure of the Rains County test of Bryant and Speer on the Mrs. S. A. Jones 67-acre tract, J. Compton Survey, which was abandoned at 1800 feet.

Cass County added its first active test in several months as result of Broderick & Calvert, Inc., having started a second test on the I. J. Cagle 154-acre tract, H. Cunningham Survey, situated about four miles northwest of Atlanta and near the center of a 4000-acre block. It is 250 feet southwest of Cagle 1, which was junked in November, 1933, while trying for a drill stem test in Woodbine section at 3830 feet. A showing of oil and gas was reported at this depth.

West Central Texas Has Thirteen Completions

Eastland, Texas.—Two gassers were included among the 13 completed wells in West Central Texas. The district was credited with seven oil wells, having a combined initial yield of 229 barrels, while the gas production was estimated at 16,000,000 cubic feet daily. There were four shallow dry holes completed during this period.

Search for production in the Ellenberger limestone, deepest producing horizon in West Central Texas, promises to extend over a wider front. Only a few wells have found this lower lime horizon carrying commercial production, but it is conceded to have possibilities, with new tests scheduled for Coleman, Shackelford, Stephens, Eastland and Throckmorton Counties.

The Ellenberger failed to yield production in the Coleman County test of M. Lorenzen et al on the Dr. F. E. Clark tract, and the well is to be plugged back from hole full of sulphur water at 4187-4205 feet to shoot Caddo lime pay passed up at the 3300-foot level. Top of the Ellenberger was reported at 3935 feet. H. H. Adams and Oplin Oil & Gas Company's Irwin 1, C SE SE Section 349, G. W. Denton Survey, Coleman County, has drilled to 4635 feet after passing up oil and water flow at 4491 feet.

Hickok Producing & Developing Company's W. L. Palmer 1, Eastland County deep test, is credited with having encountered top of the Ellenberger lime at 4195 feet, with an elevation of 1683 feet. It has drilled to 4205 feet.

Detailed list of completions in West Central Texas follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
C. O. Ice et al, J. L. Horton 1	*	1865
COLEMAN COUNTY—		
Eppenauer Drl. Co., W. L. Moody, Jr. 1	*	1956
Hoffman-Page Co., Sealy-Smith 1	15	1897
PALO PINTO COUNTY—		
Brazos River Gas Co., Fee 6	¶12	2312
International Pet. Corp., E. T. Costello 1-A	20	1411
Mineral Wells O&G Co., F. P. Simmons 1	5	3032
SHACKELFORD COUNTY—		
W. J. Dobbs et al, F. W. Alexander 1	4	889
Owens & Snebold Oil Corp., Reynolds 4	150	1208
Reliance Oil & Roy. Corp.-Jones & Stasney, Nail 2, Sec 133	25	1482
B. O. Thrall et al, J. B. Mathews 1	*	925
Valley Osage Oil Co., F. W. Alexander 5	10	894
STEPHENS COUNTY—		
W. L. Andrews et al, Andrews 1	¶2½	2028
Belding & Klenin, Compton 1	*	375

*Failures; †Junked; ¶Million cu. ft. gas.

Second Oil Well in Barbacoas Field Completed

San Antonio, Texas.—Marren, Johnson and Jeffries have completed the second oil producer in the Barbacoas field of eastern Starr County. The well is good for 10 barrels of 34 gravity oil per hour through ¼-inch choke from sand at 2523-34 feet. Casing is set at 2514 feet.

This well is located 1250 feet southwest of Jeffries-Lambeth Drilling Company's Starr County Cattle Company 2, only other oil producer in the field. It now is making about 25 barrels of oil per day, via the jetting method.

The new test is Starr County Cattle Company 1, 660 feet from the north and west lines of Block 37, Jeffries Lambeth subdivision of Porcion 88-89.

Southeast Live Oak County Wells at Important Stages

San Antonio, Texas.—Several important wells have reached interesting depths in the Dinero-Mount Lucas district of southeastern Live Oak County and are being tested.

Henderson Coquat's Little 1, M. M. Shipp survey, about one mile northwest of Dinero production, made a drill stem test of the discovery sand at 4230-37 feet. The tool slipped and the test was ruined. It, however, showed 25 pounds pressure, along with 90 feet of mud, slightly cut with oil, in 12 minutes. It is to be cored a little deeper before a new test is made.

W. H. Helmrich's H. Cartwright 1, S. M. & S. survey, Abstract 447, two miles southwest of the Lucas district, is at 5924 feet, and has a thin gas sand at 5900-01 feet. The well attempted to test about 125 feet of open hole, setting the tool at 5800 feet. It slipped and only mud was recovered. The hole is being reamed and the test will be attempted again.

Houston Oil Company is coring around 5450 feet in Cartwright 28, in the Mount Lucas field.

Lion Oil Refining Company's McNeil 2, 1200 feet northwest of the discovery well, and in Block 9 of the Jane Curry survey, is coring at 5950 feet. This well topped a sand at 5912 feet, which was 10 feet thick, bottoming the well at 5922 feet. Casing was set and the well drilled in, developing salt water along with some gas. It showed 60 pounds working pressure through ½-inch tubing choke and 600 pounds closed in pressure. It was cored six feet deeper, the core showing only shale. It now is going ahead and will likely plug back and test upper sands if nothing interesting is found deeper.

Minor Extensions Are Made to Samfordyce Pool

San Antonio, Texas.—Several minor extensions were provided to the Samfordyce field, Hidalgo County, by the week's completions. The wells are forcing offsets for several companies not now actively drilling in the field.

K. D. Harrison et al's F. B. Guerra 1, SE Tract 12, Porcion 41, more than a mile southeast of the discovery well, is flowing an estimated 10 barrels an hour through ½-inch choke on the tubing and showing a closed in pressure of only 75 pounds. The pressure is building up, however.

This well drilled to 2755 feet, set five-inch casing to 2751 feet, cutting off the upper high pressure sand, which largely accounts for the low pressure. It topped the gas sand at 2710 and has this sand to 2718, where there was a seven-foot shale break. The oil sand was picked up at 2725 feet and was solid to the total depth, the lower portion being saturated with oil and the upper showing mainly gas.

Between this well and the discovery producer there is a row of producers, drilling wells or locations to be drilled immediately. It is likely that this extension will double the amount of the drillling in the field.

The most northwesterly producer to be completed in the field was added during the week by Navarro Oil Company's Seabury et al 1, SE N 25 acres out of 51-acre tract in Tract 256, Portion 38. It picked up the first sand at 2757-77 feet, shale at 2777-85 feet, and sand from 2785-94 feet. An attempt was made to complete the well at 2789 feet, casing set at 2784 feet, but it showed a high gas pressure with excessive gas oil ratio. It was deepened to 2794 feet and 61 feet of five-inch casing set to bottom, the string being slotted from 2787-94 feet. It was recompleted for 20 barrels an hour on ⅛-inch tubing choke, showing only 30 pounds working pressure, which has shown only a slight increase.

Three more wells are on the sand and in process of completion. They are Heep Oil Corporation's Seabury et al 2, depth 2780 feet, now drilling plugs; Kingwood Oil Company and Porter Evans' John Lawrence 1, depth 2754 feet, waiting on cement; J. M. Newman et al's A. Flores 1, depth 2787 feet, waiting on cement.

One other producer was completed during the week, that being Moncrief and Showers' Lawrence 1-B, which made 15 barrels an hour, showing 200 pounds pressure, flowing through ¼-inch choke on the casing. Tubing pressure, closed in, was registered at 125 pounds. It had the sand at 2770-91 feet, shale 2791-2800 feet, sand 2800-4 feet and set casing at 2800 feet.

The only important wildcat in the general area to report any progress was Jule Alford Oil Company's A. Flores 1, Tract 250, Portion 38, Starr County, about 1½ miles northwest of production. It is reported to have tested dry in the Samfordyce sand, but this could not be confirmed, and is going deeper.

Information has been withheld on the Phillips Petroleum Company's northwest outpost well, and the Larsen et al northeast outpost well, both in Hidalgo County, as well as the Alford well in Starr County.

McMullen County Has Interesting Developments

San Antonio, Texas.—Two excellent shallow producers have been completed in the Jacob field of northeastern McMullen County. Loma Oil Company's L. Jacob Corporation 31-A, Jacob survey, is good for 100 barrels per day from 983 feet, casing set at 953 feet. Motes and Bettingfield's H. L. Lark 2, Block 134, Scrugham survey, is a 150-barrrel well in sand at 1000-7 feet, casing set at 992 feet.

A north extension to the field of about three fourths of a mile seemed possible with R. P. Whitfield's L. Jacob Corporation 3 swabbing some oil from 927 feet. It had the top of the shells at 907 feet, shale, shells and sand from 907-21 feet, and sand from 921-27 feet, well bottomed in sand. Casing is set at 911 feet. The test is in the northeast portion of Section 9.

Beer and Witherspoon completed a 10,000,000 cubic foot gasser in wildcat territory, about six miles southwest of Calliham. The well is Ezzell 2, 1000 feet of these operators' first test, and is in the Fant and Fadden survey. Production is from a sand at 768-83 feet.

New Producing Horizon Found in O'Connor Field

San Antonio, Texas.—Humble Oil & Refining Company established a new producing horizon in the O'Connor field of eastern Refugio County last week by the completion of a large gasser in M. V. O'Connor 17. The well showed salt water in the upper sands, producing oil in the field, but picked up a sand series starting at 4391 feet, which showed gas. Several tests were made, and it finally was cored to 4493 feet, showing shale from 4430-47 feet and water sand at 4447-93 feet. It was plugged back to 4417 feet, casing set at 4390 feet, and the well completed.

It is located 933 feet southwest of O'Connor 15, Keating survey, a producer.

Tuleta Field Is Extended Half Mile South

San Antonio, Texas.—Edwin M. Jones, independent operator of San Antonio, purchased 240 acres of leases in the West Tuleta field, Bee County, from United Production Company and is starting an immediate development campaign. The price was not announced, but it is reported that it involved considerable cash, an overriding royalty to United Production Company and drilling obligations.

The tracts involved include 80 acres out of the S NE Section 10; 80 acres out of the N SE Section 10; 40 acres SW NW Section 11; 40 acres out of NW NW Section 9. All the property with the exception of the latter 40 acres is out of the A. J. Silcock fee, and that is out of the R. Harris fee. Several immediate offsets are required through present production of the field.

The field definitely was extended more than a half mile to the southwest during the week with Heyser, Heard and Walton completing their R. Perez 1, center block 9, SE Section 8. The well topped the sand at 3955 feet, and at 3965 feet made a drill stem test from 3949-65 feet, showing mostly gas. It was cored deeper to 3973 feet, bottomed in sand and a second drill stem test from 3965-73 feet developed 210 pounds pressure and showed 80 feet of oil and a small amount of mud in 15 minutes. Casing was set on the lower portion of the sand.

Several important outpost and wildcat wells in the immediate area will test the Tuleta sand shortly, and their outcome will have a tremendous bearing on the future possibilities of the field.

The most important wildcat to be started in the area is Dirks Brothers et al's J. E. Roth 1, located 990 feet north line and 330 feet west line of SW Section 7, about 1½ miles west and north of production. It has spudded and set surface casing. There has been a little trading in leases in this general area.

Mills Bennett Oil Corporation is moving in for Silcock 2, located SE NE Section 9, about midway between the southwest extension production and the original area. Blanco Oil Company and Al Buchanan's P. Perez 2-A, located SE N 100 acres SE Section 9, has been spudded. Both wells are in locations that should materially enlarge the producing area should their completion be successful.

Mills Bennett Oil Corporation's Silcock, SW NE Section 9, Yegua sand test, plugged back from 4226 feet to just below 3900 feet and perforated

casing at 3898-3901 feet, where it was completed as a gasser.

At the close of the week, there were ten active tests in the field with about that number of locations made for wells to be drilled as soon as the rigs are available.

Laying Pipe Line From Caesar Field

San Antonio, Texas.—Luling Oil and Gas Company has started construction on a combination 2½ and four-inch field line and gathering system from its two producers in the Caesar field, Bee County, to railroad siding at the town of Burnell, four miles away. The company also is constructing a ten-car loading rack, and tankage at the loading rack.

The present line is a temporary proposition and another line will be constructed as soon as the definite needs of the field are determined from drilling.

The company controls practically the entire probable producing area and plans an immediate heavy drilling campaign. It has completed two oil wells, making a combined flow of about 150 barrels per day, and is drilling a third.

The new well is B. B. Ruhmann 4-B (6), northwest corner Block 39, and west of the two producing wells. It has set surface casing. The company has contracted and is drilling a well for Falvey et al in the northwest corner of the J. J. Grissom 711-acre tract in the McElroy survey, several miles southwest of the two oil producers and about three quarters mile southwest of the Caesar townsite gassers. It is spudding.

Commercial Production Found in Frio County

San Antonio, Texas.—Amerada Petroleum Corporation apparently has succeeded in developing commercial oil production on its 85,000-acre block in western Frio County. Halff and Oppenheimer 2 is flowing 5,000,000 cubic feet of gas per day, along with 15 barrels of fluid an hour after plugging back to the Navarro sand and perforating casing at 3936-50 feet. The fluid is about 25 percent black, heavy oil, badly cut.

The well originally was drilled to 10,050 feet, in the Trinity sand, deepest well ever sunk in South Texas. Drill stem stuck and finally twisted off. The plug back job was the result of information obtained through running electric formation testing devices.

This new producer is located 2100 feet from the northwest line and 800 feet from the northeast line of J. H. Gibson survey No. 16, five miles southwest of the town of Pearsall.

Its records are as follows: spudded May 4, 1934; set 15½-inch casing at 289 feet; set 9⅝-inch casing at 4952 feet; drilled to 10,050 feet, reaching the total depth November 20, 1934, where drill stem was stuck.

Formation markers were encountered as follows: Carrizo 1280 feet; Wilcox 1500; Midway 2620 feet; Navarro 3130 feet; Taylor marl 4850 feet; Austin chalk 5200 feet; Buda lime 5710 feet; Del Rio Clay 5810 feet; Georgetown lime 5900 feet; Edwards lime 5990 feet; Glenrose 6791 feet; Trinity 9771 feet. Elevation is 540 feet.

The company's block commences near the town of Pearsall and extends more than 20 miles southwest to the Zavalla County line. It is practically solid.

The producer is the third well to be drilled by this company on this block. The first was the Halff and Oppenheimer 1, an abandoned Edwards lime test at about 6500 feet. The second was F. Doering 1, drilled to the Edwards lime at the 6500-foot level, but plugged back and completed as a gasser in the Georgetown and Buda limestone section. The third well, Halff and Oppenheimer 2, showed a little oil, several barrels per day, along with some gas in the Edwards lime.

Sam Patricio Wildcat Showing for a Producer

San Antonio, Texas.—Heep Oil Corporation is attempting to cut off salt water flow in Welder 4, prospect three fourths of a mile east and south of Sinton field, San Patricio County. The well is showing for a possible producer from a sand just about 5900 feet, and it is believed that the water is coming from another sand.

The well drilled to 7247 feet, where drill pipe was stuck and finally cut off. The well was plugged back and seven-inch casing was cemented at 6692 feet, and perforated opposite a sand topped at 6614 feet. It failed to develop production at this level, and was plugged back to 5900 feet, being perforated at 5874-80 feet. The well showed considerable 33 gravity oil under pressure of 1,000 pounds closed in pressure and 250 pounds working pressure, but flowed some warm salt water. The temperature of the oil and water was different, which indicates that possibly the water is coming from another horizon.

The well has been killed and casing will be perforated above and below the present perforations. The hole will be cemented through the new perfortions in an effort to cut off any flow of water from top or bottom.

It had the top of the regular Sinton sand at 5411 feet and showed for a gasser spraying distillate as did three other producers completed in the area.

Plymouth Oil Company's E. H. Welder 2-B, southwest of 1-B, has drill pipe stuck at 5387 feet. The well broke through a hard cap into a soft sand at this level, the sand showing a tremendous gas pressure, as the pumps were closed, the sand froze the pipe.

South Texas Has a Fair Completion Week

San Antonio, Texas.—Samfordyce field, Hidalgo County, with three completions, led south Texas in a fair week for new producers. Government Wells, Duval County, did not contribute the usual seven or eight, and the Cole field, Webb County, did not report a single well. All three fields, however, have a number of wells on the sand.

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Luling Oil & Gas Co., B. B. Ruhmann 3-B (5), Blk 39	35	3077
Mills Bennett Oil Corp., Silcock 1, ne Sec. 9, pb and perf csg 3898-3901	¶20	4226
Nichols Oil Corp. (Kenneth Morgan et al), Hicks-Hall 5 (1), 900 ft sl and el Blk 39, J. M. Uranga Grant	25	3938
United Prod. Co., G. A. Ray 47, BS&F sur, pb and perf csg 3935-50	¶30	4214
DUVAL COUNTY—		
Edna Bryant et al, Kidd 1, se Sec. 56	*	2220
Government Wells Oil Co., State 7, Sec. 60	500	2350
HIDALGO COUNTY—		
K. D. Harrison et al, F. B. Guerra 1, 330 ft sl and wl Tract 12, Por 41	200	2755
Moncrief & Showers, John Lawrence 1-B, ne 16-ac, Tr 274, Por. 39	360	2804
Navarro Oil Co., Seabury et al, n 25 ac of 51-ac tr, Tr. 256, Por. 38	500	2794
McMULLEN COUNTY—		
Beer & Witherspoon, Ezzell 2, 1000 ft w No. 1, Fant & Fadden sur	¶10	787
Circle W. Oil Co., Wheeler 1, 330 ft nl and el of Sec. 44, Two Rivers Ranch	*	1812
Leonard Jacob Corp., L. Jacob Corp. 2-F, John Fadden sur	12	870
Loma Oil Co., L. Jacob 31-A, W. H. Jacob sur 7	100	983
Motes & Bettingfield, H. L. Lark 2, Blk 134, Scrugham sur	150	1007
Stewart Holding Co., L. Jacob 3, John Fadden sur	*	895
REFUGIO COUNTY—		
Conroe Oil Co. & Santa Clara Oil Co., Miss Ella West 1, 233 ft out of nw cor 193-ac tr, John Scott sur	*	6005
Houston Oil Co., W. J. Heard 17, Refugio town tracts	400	4940
Humble O&R Co., M. V. O'Connor 17, John Keating sur	¶25	4430
STARR COUNTY—		
Marren, Johnson & Jeffries, Starr County Cattle Company 1, 660 ft nl and wl Blk 37, J&L Sub of Por. 88-89	250	2534
ZAPATA COUNTY—		
Merle Gunby, Alice D. Haynes 3, 200 ft sel and nel Blk 9, Alice D. Haynes sub of Comitas & Villa Grants	*	3502
Kleiner & Hill, Jose Gutierrez 9, Share 4, Comitas Grant	20	1223
S. R. & C. Oil Corp., Cuellar 3-F, Blk 21, Sec. 411	¶25	1676

*Failures; †Junked; ¶Million cu. ft. gas.

Madison County to Get Another Test

Houston. — Since the abandonment at 2510 feet of Sunray Oil Company's Fergusen State Farms 1, approximately four miles southeast of Mid Way, W. Walker Survey, Madison County, Texas New York Development Company and Hall Edwards have made location for Fergusen State Farms 1, 3000 feet east and 1750 feet south of the northwest corner of J. H. Pierson Survey. The well is located approximately three miles north and little west of the abandoned hole.

In Walker County, Sea Port Oil Company has made location for Russ 1, 256 feet north of the south line, 337 feet west of the east line, approximately 6700 feet from the west line, 2780 feet from the north line of Wm. Hodges Survey. The well is located approximately nine miles west of Huntsville. The Texas Company's Thompson Lumber Company 1, seven or eight miles southwest of the Kittrell field and in the Jose Ortega Survey, was drilling at 3180 feet after topping the Crockett at 1612 feet.

In Grimes County, W. B. Roan et al have made location for Geo. W. Sealy 1, 3474 feet from the south line, 826 feet from the west line of B. F. Smith Survey. The well is one and half miles southwest of Kellum Springs. At the close of the week the operators were building derrick.

In Houston County, Gem Oil Company has made location for A. Buffington et al 1, 1000 feet from north and 1200 feet from most eastern west line of 165.9-acre tract in the J. M. Prado Survey. W. A. Keils of Teague, Texas, has made location for L. W. Huffman 1, center of tract in the C. M. McEllis Survey. W. A. Keils made applications to drill J. A. Reynolds 1, 11 feet from the northwest and 15 feet from the northeast line of 0.16-acre tract in the C. M. Ellis Survey, but the Texas Railroad Commission failed to grant the permit. This was case number 13,198.

Brazoria County Wildcat Abandoned

Houston.—Turnbull & Irwin's Sutherland & Buck 1, 150 feet from the west line and 344 feet from the south line of a 40-acre tract in A. Robinson Survey, Sandy Point, Brazoria County, was abandoned at 6510 feet after coring salt water from 6340 to 6345 feet. This wildcat topped the Discorbis around 5490 feet, Heterostegina 5926 feet and Marginulina at 6018 feet. Elevation is 50 feet.

To the south of this dry hole and near Angelton, Luling Oil & Gas Company is reported to have taken a block of acreage and is to drill a well within 90 days after the deal is consummated. The well will be located to the east of the Holt et al's Griffith 1, B. Bailey Survey, which was abandoned at 4173 feet.

Stanolind Oil & Gas Company's J. W. Surface 1, Hastings area, approximately four miles north of Alvin, A. C. G. & B. Survey, Abstract 462, was drilling at 5573 feet at the close of the week after having a reported faint gas showing up in the hole. It found no Discorbis around 5100 feet. The well is reported to be running high.

In Matagorda County, Cockburn Oil Company has made location for Hawkins 6, D. McCarthy Survey, 2600 feet southeast of the northwest line 1200 feet northeast of the southwest line of the survey. This well will be another deep test for the Sheppard Motts area, where Cockburn Oil Company has drilled several deep tests. H. M. Smith incorporated has made location for Wardsworth 1, 150 feet out of the southwest corner of Lot 3, Block 5, in a 40-acre tract in the S. R. Fisher Survey, Abstract A-34. The operators were rigging up at the close of the week.

Liberty County

Houston. — Jack Frazier's Lynotte Buffon 1, James Robeson Survey, Liberty County, perforated the casing from 5396 to 5404 feet with 10 shot holes and was preparing to make a drill stem test at the close of the week. The bottom of the hole is 7511 feet. This well was one of the most exciting wildcats on the Texas Gulf Coast and was running over 500 feet higher than the wells drilled in the area. The well drilled 466 feet into the Cockfield, having topped that formation at 7045 feet, without picking up appreciable body of sand. The operators decide to set casing and then perforate the casing on down. If this test proves unsuccessful the operators will perforate further down the hole. The well has been held up for some time due to bad weather and the operators couldn't get the perforating machine into the drilling side.

Fort Bend County

Houston.—Vico Oil Company's Darst 1, two miles west of Beasley and approximately nine miles north of Boling, E. Powell Survey, Ft. Bend County, was abandoned during the past week at 6217 feet after topping the Vicksburg at 6049 feet. Elevation is 102 feet.

Transtate Oil Company has made location for Dipple 1, 480 feet south of the north line, 347 feet east of the southwest line of 10-acre tract or approximately 3200 feet northeast thence 2150 feet southeast of the west point of Simon Miller League.

Arriola Field Test Looks Disappointing

Houston.—In Hardin County, Republic Production Company's Arriola 9, Arriola field, took a drill stem test during the past week from 4039 to 4050 feet and showed eight thribles of salt water, slight showing of oil and gas. The operators used a quarter-inch choke on top and bottom. The well showed no pressure. The test was made in eight minutes. The same operator's Arriola 10, was completed during the past week for 104 barrels of oil in 14 hours from 3579 feet. Tubing pressure registered 1240 pounds; casing 1020 pounds.

One of two companies holding 35 sections of a development company's fee in the southeastern part of Polk County and the southwest part of Tyler County is preparing to develop the area. The two companies had a joint agreement to consult each other when one of the companies wanted to develop the area. One of the companies consulted the other company but it is understood that one company did not care to take part in the development at this period. The active company is working out a deal with another company to help finance the project and a deal now is being consummated whereby the company is to pay $15,000 cash and drill six free Cockfield tests. The major company is a heavy lease holder in the area.

In Jefferson County, Sun Oil Company has made location for a deep test in the Labelle area of the county. Hebert & Broussard 1 is located 6890 feet northwest along the southwest line of survey from the south or southeast corner of survey thence 66 feet northeast at right angles. The well is located in the B. Blackmon Survey and is south of Lovall Lake.

210 New Permits to Drill Issued in Texas

Austin, Texas.—The Texas Railroad Commission last week granted permits for the drilling of 210 new wells, 25 less than were allowed the week before.

East Texas operators obtained 94 of these permits. There were 47 in Rusk County, 36 in Gregg, eight in Smith and three in Upshur County.

Tide Water Oil Company was allowed permits for 12 new wells in the Cayuga area in Anderson County, marking new activity in that field.

In the North Texas district, 32 permits were granted, of which 15 were for wells in Wichita County and 14 for wells in Archer County.

Southwest Texas reported 27 new locations, while the Gulf Coast listed only 19. In West Texas there were 10 new permits granted.

New Eureka Field Is To Get Additional Testing

Houston.—C. B. Bunte's Laura Lackner 1, one and half miles north of Eureka, discovery well for the Eureka field, H. Reinerman Survey, Harris County, is making approximately 40 to 50 barrels of distillate per day. The well, when it first came in, was estimated good for from 50,000,000 to 100,000,000 cubic feet of gas daily. On one gauge taken during the past week the well was making on 13 to 15 barrels of distillate daily through a one eighths-inch choke with a tubing pressure of 2500 pounds; casing 2475 pounds.

C. B. Bunte and Alamo Drilling Company have leased the H. E. Neuhaus 153 acres in the W. M. Morton Survey, approximately two miles northwest of the discovery well. The reported cash consideration for the 153 acres was $10,000 and $150 per acre out of a quarter of the oil produced, also a well to start within 30 days after the deal is consummated. C. B. Bunte is reported to have given Alamo Drilling Company 20 acres off the west end of the tract and is offering 42-acre tracts at $300 per acre, which will be paid to Alamo Drilling Company to drill the second well in the area. The operators have made tentative location for the well, which was reported some time ago as 700 feet north of the south line and 2750 feet east of the west line of H. E. Neuhaus 153-acre tract. North and little east of the above lease a major company has sold the west 150 acres out of a 300-acre tract to another company for a cash consideration of $75 per acre.

American Liberty Oil Company's Graves Estate 1, was moving in rig at the close of the week to start on the third well drilled in the Bammal area of Harris County. The well is located 1403 feet north of the south line, 467 feet east of the west line of J. W. Bryan Survey.

It was reported some time ago that another well would be drilled in the Ogburn area of Harris County, where General Crude Oil Company drilled a dry hole in Rorick 1, J. Obgurn Survey. Walton Goldston et al have made location for Weingarten 1, 466 feet out of the northeast corner of the H. & T. C. Survey, Section 39, Block 2.

One of the most exciting lease plays on the Gulf Coast now is in progress approximately two miles north of Crosby in Harris County and centering to the south of the old J. A. Hodges et al's Wilda Scott 1, F. H. Rankin Survey, which was drilled to 6275 feet and abandoned. One major company is reported to have taken a large spread centering around the D. D. Culp Survey. The company is reported to have paid two dollars per acre bonus, two dollars per acre annual rental for a five-year lease. About half of the large spread was taken for the above consideration and then prices jumped to five dollars per acre bonus, one dollar rental. To the east of this play H. L. Patton, was reported some time ago to have worked up a block of 1800 acres on the Harris and Liberty County line.

In Waller County, Stanolind Oil & Gas Company's Thorp 1, due west of Katy, Vinnett Survey, was drilling at 4728 feet at the close of the week in the Vicksburg but the top of the formation has not been determined yet. The well is reported to be running a little high.

In Austin County, J. F. Wheelis, Jr.'s Wittenburg 1, four and half miles west of Sealy, H. & T. C. Survey, Section 177, was drilling at 5118 feet after topping the Hockleyensis around 4281 feet. The well is reported to be running normal.

FREDERICK G. CLAPP, consulting geologist, has returned to his New York office aften spending a few weeks studying the situation in the Michigan oil fields.

Cleveland Area Well Is Running Normal

Houston.—In the Cleveland area of Liberty County, Gulf Production Company's Kirby C-7, 1100 feet due north of Kirby C-6, J. Pleasant Survey, was drilling below 5831 feet after finding Hockleyensis from 4763 to 4783 feet. As compared to Kirby C-4, C-5 and C-6 on this marker, the well is running about normal or a little higher. Heretofore, Gulf Production Company was the sole operator in the Cleveland field and now Black Gold Corporation of Oklahoma is rigging up on R. D. McDonald 1, west of Gulf Production Company's Kirby C-6.

Another operator also has made location to the north of Kirby C-7. W. J. Colegrove et al's State Land 1, is located 466 feet from the west line and 170 feet from the north line of 31-acre tract in the C. Harper Survey.

Tomball Field Is Given East Extension

Houston.—There were 19 completions along the Texas Gulf Coast during the past week and of that amount 12 resulted in oil and distillate wells with an initial production of 3242 barrels daily. The remaining seven wells were reported as failures.

The Tomball field of Harris County led the list of fields for the number of wells completed in one area. There were four producers and no failures reported in the field. Humble Oil & Refining Company's M. H. Gossett 1, 1233 feet from southwest and 466 feet from the southeast line of 231-acre tract in E. Smith Survey, was completed for 325 barrels of crude oil daily to extend the Tomball field over three quarters of a mile to the east and is near the Town Lodge of City of Tomball. The oil was produced through a quarter-inch choke and from 5557 feet. The oil sand was topped at 5552 feet. Six and five eighths-inch casing was set at 5550 feet. Of the four oil wells completed in the field Humble Oil & Refining company completed three of them. The Texas Company gets credit for completing the fourth well in the field.

In the Kittrell field of Houston County, Humble Oil & Refining Company's Shaw 2, which was the second producer for the field and located 660 feet southwest of Shaw 1, which went dead after flowing oil for a week, is making approximately 135 barrels through a three eighths-inch choke on the tubing. Production is coming from sands found from 2005 to 2015 feet, the bottom of the hole. The well is pro-

Fly

BOWEN AIR LINES

Inc.

5th. YEAR SERVING TEXAS

DOUBLE DAILY SERVICE

Ft. Worth — Dallas — Houston

and

FASTEST SERVICE

Between

Brownsville — San Antonio

Austin — Dallas — Ft. Worth

Convenient Connections to and from All Major Cities

ducing from the same sand that the discovery well is producing from.

The completions along the Texas Gulf Coast during the past week are as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
CONROE—		
Strake Pet. Co., Ethridge 7.....	268	5061
The Texas Co., W. S. Rhoder 13 (wo)	528	5117
DICKINSON—		
Humble O&R Co., Maco Stewart 1-B	120	8070
Pure Oil Co., Schelor 1	50	8016
EUREKA—		
C. B. Bunte, Laura Lackner 1	40	7695
KITTRELL—		
Humble O&R Co., M. Shaw 2	135	2015
T. L. L. L. Co. 1	*	3870
MANVEL—		
The Texas Co., O. L. Rash 1 (wo)..	242	5690
PIERCE JUNCTION—		
Hamil & Hamil, Higgins 1 (wo)..	4	3080
THOMPSON—		
H. M. Naylor, Grhr 5	264	5364
TOMBALL—		
Humble O&R Co., Gossett 1	325	5557
Tallman 1	552	5609
Reid 5	450	5553
The Texas Co., A. Zeigler 5	264	5584
BRAZORIA COUNTY—		
Turnbull & Irwin, Sutherland & Buck, Sandy Point, A. Robinson sur	*	6510
FT. BEND COUNTY—		
Vico Oil Co., Darst 1, 5690 ft fr s and 6580 ft fr e line of 726-ac lease in E. Powell sur.....	*	6216
HOUSTON—		
Lacy & Miller, J. H. Hanner 1, 330 ft s of the nec of 46-ac tr on 400-ac lease in Wm. Dillard sur.....	*	2461
Trinity Dev. Co., Knox 1, 50 ft e of w line and 350 ft n of s line of 150-ac tr and 500 ft fr s n line and 1000 ft fr s e line in Wm. Prissick sur	*	2503
MATAGORDA COUNTY—		
Continental Oil Co., Robbins 1, 1750 ft fr w and 3900 ft fr n line of 1500 ac tr in J. C. Franz sur.....	*	6995

*Failures; †Junked; ¶Million cu. ft. gas.

New Horizon Showing At Lake Washington

Lake Charles, La.—Humble Oil & Refining Company's Cockrell-Moran 23, Lake Washington, Section 14-20s-26e, Plaquemines Parish, was waiting on an electrical logging device after making a drill stem test from 4321 to 4334 feet which showed one single of mud, five joints of sand and mud saturated with oil and six joints of sand with free oil. The test was made in 12 minutes through a three eighths-inch choke. The oil tested 22 gravity at 79 degrees. Top of the sand was found at 4327 feet.

If this well proves a producer it will open up a new producing sand for the Lake Washington field. Heretofore the field has produced only from the cap rock encountered from 1130 to 1495 feet. The principle lease holders in the field are Humble Oil & Refining Company and Shell Petroleum Corporation, who jointly sub leased the sulphur rights to Freeport Sulphur Company. The latter operators have been producing a large quantity of sulphur from the field.

Bosco Field Extended 900 Feet Eastward

Lake Charles, La.—The Bosco field of Acadia and St. Landry Parishes was extended 900 feet to east during the past week and the operators were waiting on cement to set on Arceneaux 2, to extend the filed to the west. Superior Oil Producing Company's W. V. Larcade 4, 900 feet east of U. T. Iseringhauser 1, furtherest eastern producer, 658 feet south and 2292 feet east of the northwest corner of Section 35-8s-3e, St. Landry Parish, was finaled at 7850 feet and made on the first 24-hour gauge 878 barrels of oil through a twelve sixty fourths-inch choke. The oil sand was topped at 7827 feet and nine and five eighths-inch casing was set at 7832 feet. The operators set 42 feet of seven-inch perforated pipe on bottom, two and half-inch tubing at 7658 feet, and the well came in for 878 barrels daily. Tubing pressure was 1075 pounds; casing 1225 pounds. This extension test is about 10 feet lower than the furtherest eastern producer, U. T. Iseringhauser 1, which was completed for 1000 barrels per day from 7850 feet. The extension well topped the Discorbis at 7629 feet, Eponidez 7683 feet and Large Discorbis at 7786 feet. The well is producing from the Discorbis, the same sand that U. T. Iseringhauser 1 is producing from. The same operator's J. S. Arceneaux 2, 1200 feet southwest from E. Mire 1, the furtherest west producer, and 1200 feet west and slightly north of E. Lablanc 1, the furtherest southwest producer, 1963 feet south and 1708 feet west of the northeast corner of Section 33-8s-3e, was preparing to drill plugs at the close of the week. The bottom of the hole is 8687 feet. Sand was cored from 8677 to 8687 feet and of that core nine feet of sand was recovered, seven feet showed a good oil sand and the remaining two feet sand and shale. The operators ran an electrical logging device and set seven-inch casing at 8652 feet. If the well proves a producer it will extend the field to the west and southwest over 1200 feet. Superior Oil Producing Company's Comeaux 2, approximately 3000 feet southeast of the discovery well and north of L. Richard 1, furtherest south producer, in the Bosco field, Section 34-8s-3e, was abandoned at 8901 feet, after perforating the casing from 8790 to 8802 feet and swabbing the well flowed salt water. This well is surrounded by six producers. This well makes the fourth failure for the field.

There have been 19 completions in the field, four failures, one junked hole, one abandoned location, and 13 producing oil wells. The field now has a proved acreage of over 800 acres and has an allowable of 7500 barrels per day.

Superior Oil Producing Company's Larcade 2, 1000 feet south of Larcade 1, was running tubing at 8692 feet at the end of the week to be completed. A Martinez 1, 8000 feet east and little south of the discovery well, Section 35-8s-3e, St. Landry Parish, the furtherest drilling well from the discovery well drilled 10 feet below 9325 feet where it had been shut down for some time to prepare to start coring. The well is down now to 9335 feet. This test will be of importance to see what lies in the lower formations.

St. Martin Parish Test Has Not Been Abandoned

Lake Charles, La.—It was reported some time ago that The Texas Company's St. Martin Land Company 6, two miles northeast of Henderson, Section 17-8s-7e, was abandoned at 9559 feet, but this was in error as the well now is drilling below 9607 feet, the deepest active test on the Louisiana Gulf Coast.

Centering around Cotton Holmes and around Section 47-10s-7e, Magnolia Petroleum Company has taken a 14,500-acre block for exploration purposes, paying 50 cents per acre for the six months option, two dollars per acre selection and two dollars per acre annual rental. Five-year lease was obtained.

In Terrebonne Parish, a Mississippi oil operator is reported to be dealing with Fredrick Brothers for their 760 acres about three quarters of a mile northwest of Whitstone's Buckley 1, which now is shut down in hard sand rock at 3063 feet. The deal is reported for an immediate drilling of a test well.

In East Baton Rouge Parish, Superior Oil Producing Company is rumored to have closed a deal for the Louisiana State University's property of 2000 acres. Consideration was $50,000 cash bonus and a well.

Eight New Drilling Permits in Louisiana

Shreveport, La.—Eight drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission. Five were for North Louisiana, as follows: Caddo, two; Union, two. Three were for South Louisiana, as follows: Acadia, one; Calcasieu, one; Cameron, one, and Plaquemines, one.

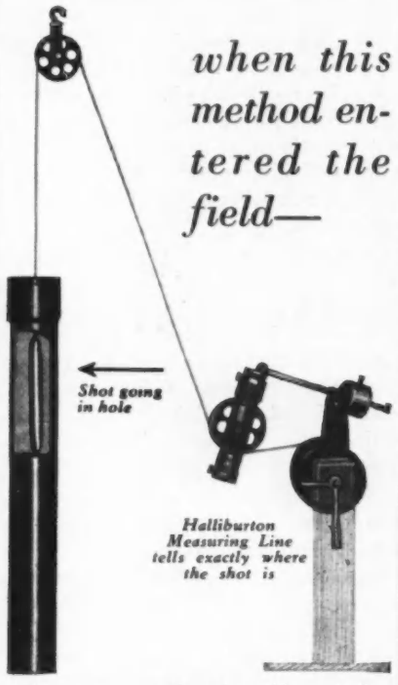
Gillis Area Receives Second Commercial Well

Lake Charles, La.—The second commercial producer was completed in the new Gillis field of Calcasieu Parish when Union Sulphur Company's State 1, one half mile east of the discovery well came in for 1500 barrels daily. The well was drilled to 6759 feet, where six and five eighths-inch casing at 6749 feet, that depth being the top of the oil sand. One joint of four and half .080 screen was set and three joints of four and quarter blank liner. The well came in making an initial daily production of 1500 barrels of 34.1 corrected gravity oil through a three eighths-inch choke. The tubing pressure registered 1010 pounds. This well was running higher than the discovery well, and from all indications the well is much better than the discovery well. There has been no report as to the salt water content on the well. It topped the Discrobis at 6050 feet and the Heterostegina at 6830 feet. Ten feet of saturated oil sand is said to have been found from 6749 to 6759 feet. The operators have made location for State 2, 748 feet south and eight feet east of the northwest corner of the southwest quarter of Section 12-9s-8w.

Union Sulphur Company is reported to have released the Stout acreage in Sections 30 and 31-8s-7w and Section 36-8s-8w in the Gillis area. Fohs Oil Company's O. H. Castle 1, south of the discovery well, 330 feet south and east of the northwest corner of the southwest quarter of Section 13-9s-8w, was drilling at 5960 feet at the close of the week.

PIPE SHOOTING BECAME AN ART

when this method entered the field—



The operator stuck today with a stuck drill pipe, casing or tubing string can rely on an H&L Shooting Crew to clear the hole quickly, at little cost, and have both the hole and recovered string in good condition.

Or, if cutting out is preferable, an H&L Cutting Crew is on the job with Inside Casing Cutters (sizes 2" to 16" inclusive) and Automatic Releasing Spear (any required size) with real results.

Wire or Write for Details

HALL & LOWREY INCORPORATED
PHONES: OFFICE 222—NIGHT 122—354
GOOSE CREEK, TEXAS, U.S.A.

Louisiana Representative:
M. C. WOMACK PHONE 89
Thibodeaux, Louisiana

Evangeline Parish May Have New Oil Field

Lake Charles, La.—Humble Oil & Refining Company's Hattie Hass 1, three miles northwest of Reddell, southwest of Pine Prairie, Section 22-4s-1w, Evangeline Parish, was rotating and waiting on orders at the close of the week with the bottom of the hole at 6636 feet, after having a good showing of oil at 6627 feet. On a core taken from 6627 to 6631 feet, four feet of sand was recovered that showed oil. On a core from 6632 to 6636 feet, four feet of shale was recovered with a salty taste in the core. Twenty-inch casing was set at 206 feet and 13⅜-inch pipe at 1985 feet. This showing of oil gives an indication of another field for the Louisiana Gulf Coast. This well is a geophysical prospect of Humble Oil & Refining Company's, who hold approximately 4000 acres in the area. Two tracts are held by The Texas Company to the southwest of the drilling well. Shell Petroleum Corporation holds several small tracts in the area. If a producer results, the second well must begin within 60 days on lands of the Hass Estate in the section adjoining the south. Thereafter continuous drilling operations are provided for.

To the southwest of this important wildcat, a San Antonio, Texas, oil operator has a block of approximately 6000 acres centering around Section 23-6s-2w and is selling spreads for a well. One major oil company is reported to have taken 1000 acres in the area for $20 per acre bottom hole money, which is paid for a 6500-foot test.

Seven Completions Made In Louisiana Coast Area

Lake Charles, La.—The Leesville field of La Fourche Parish led the Louisiana Coast in number of completions during the past week when it registered three oil wells. Emerald Petroleum Company's State of Louisiana 7, Section 26-21s-22e, came in for 62 barrels per hour through a three eights-inch choke from 3901 feet. The oil was 24.5 gravity. The second largest completion in the field was The Texas Company's Louisiana Land Exploration Company 20, Section 26-21s-22e, when it made 1168 barrels of 31 gravity oil at 50 degrees from 3823 feet. This well originally was completed at 3737 feet for 320 barrrels per day through a half-inch choke. Sand was topped at 3708 feet and seven and five eighths-inch casing was set at 3705 feet. The operators decided to carry the well down. It was drilled to 4374 feet where it encountered the cap rock at 4365 feet. The hole was plugged back to 3705 feet and redrilled to 3823 feet. The oil sand was topped around 3800 feet. Five-inch casing was set at 3798 feet. The operators set 43 feet of 10-inch gauge screen, 94 feet of blank, two-inch tubing was on top, and the well came in for 1168 barrels of oil daily through a half-inch choke with a tubing pressure of 380 pounds. The same operator's L. L. E. Leesvillle 21, Section 26-21s-22e, was drilling in shale below 3438 feet at the close of the week after drilling to 4925 feet and topping the cap rock at 4921 feet. The hole was plugged back and side tracked at 3339 feet. L. L. E. Leesville 28, Section 27-21s-22e, was drilling at 1880 feet after plugging back from 3916 to 1100 feet and whipstocking at that depth. Cap rock was encountered at 3880 feet. The operators have several other locations in this field. The third producer in the field was Gulf Refining Company's L. Bernard 8, Section 26-21s-22e, which made 900 barrels daily from 3925 feet.

The completions along the Louisiana Gulf Coast during the past week averaged one well a day for the seven-day period. Of the seven completions, six resulted in oil producers with an initial production of 5233 barrels.

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSCO—		
Superior Oil Prod. Co., Larcade 4	788	7850
EDGERLY—		
Union Sulphur Co., Hunter 2	*	3698
IOWA—		
Shell Pet. Corp., Stafford 5 (wo)	407	6978
LEESVILLE—		
Emerald Pet. Co., State 7	1488	3901
Gulf Refining Co., L. Bernard 8	900	3925
The Texas Co., L. L. E. Leesville 20	1168	3823
SULPHUR—		
Union Sulphur Co., Fee 803	482	2832

*Failures; †Junked; ¶Million cu. ft. gas.

Louisiana December Allowable Is Fixed

Lake Charles, La.—For December, allowable productoin in Louisiana was fixed by the State Department of Conservation at 98,575 barrel per day. This figure is 4575 barrels higher than the 94,000-barrel per day figure allocated to the state by the federal oil administration in its December schedule. That federal quota had represented, however, a 4,000-barrel increase over the previous month. Of the 98,575-barrel allowable fixed by the state, 20,750 barrels is for North Louisiana, and 77,825 barrels is assigned to fields of the Louisiana Gulf Coast.

The allowables for the fields of Southern Louisiana are as follows:

Bayou Choctaw	500
Black Bayou	1,500
Bosco field	7,500
Caillou Island	5,400
Cameron Meadows	1,300
East Hackberry	4,750
Evangeline	1,300
Four Isle	800
Gillis	450
Gueydan	300
Iowa	16,600
Lake Barre	5,500
Lake Washington	1,050
Leesville	15,800
Lockport	1,600
New Iberia	500
Port Barre	3,700
Roanoke	1,375
Starks	600
Sulphur Mines	3,000
Sweet Lake	1,050
Vinton	2,750
White Castle	450
Total South Louisiana	77,825
Total North Louisiana	20,750
Grand Total	98,575

Five New Locations In North Louisiana

Shreveport, La.—Five new locations were announced last week in North Louisiana.

Ark-La-Tex Oil & Gas Company, which recently extended the old Caddo district, Caddo Parish, a mile northeast, with a 100-barrel pumper, made an offset location, Simon 2390 feet north and 330 feet east SWc NW 15-20n-15w. This is the sixth new location made in this vicinity since the extension well was completed.

Premier Investment Company which has been active in the rejuvenated Bellevue field, Bossier Parish, whose daily production has been built back to over 500 barrels daily, made location for R. E. Wyche 17, 900 south and 2220 feet east NWc 14-19n-11w.

In the old Naborton field, DeSoto Parish, where activity was recently renewed, Windsor Oil Company has derrick up for Jenkins 3, 1905 feet east and 660 feet north SWc 11-12n-11w.

Two new locations were made in the Union Parish part of the Monroe gas field. Interstate Natural Gas Company is rigging Jenny 1, 1950 feet north and 735 feet west center Section 7-20n-4e, and made location for Spencer 6, 750 feet north and 808 feet east SWc SE 2-20n-3e.

Drilling Permit Fee Brings State $13,000

Shreveport, La.—The fifty dollar drilling permit fee for operations in Louisiana which went into effect last August 1 has yielded approximately $13,000 for the state Geological Survey, which under a statute enacted last May allocates these fees for this purpose. The Geological Survey operates under supervision of the minerals division of the Louisiana Conservation Commission.

Sligo Gas Field Extended Two Miles to Northeast

Shreveport, La.—The Sligo gas field of Bossier Parish was extended two miles northeast last week with the completion of a 16,326,420-foot gasser making a spray of salt water. Rock pressure is 1380 pounds.

Exactly what horizon is producing the gas is not known, the well having been plugged back to 3285 feet from 3990 feet. Seven-inch casing was cemented at the 2800-foot level, the upper producing horizon of the Sligo field, and later a string of 4½-inch casing was swung. A fracture in the original string may have allowed gas from the 2800-foot level to come in. Sligo has three gassers producing from the 4200-foot level.

The new well, completed by Producers Oil & Gas Company, Incorporated (Will Hall et al), of Shreveport, is just outside the Barksdale field army reservation.

Only three other completions were recorded in North Louisiana last week, all being failures, one in Zwolle, Sabine Parish, and two wildcats in DeSoto Parish.

Completions last week in North Louisiana follow:

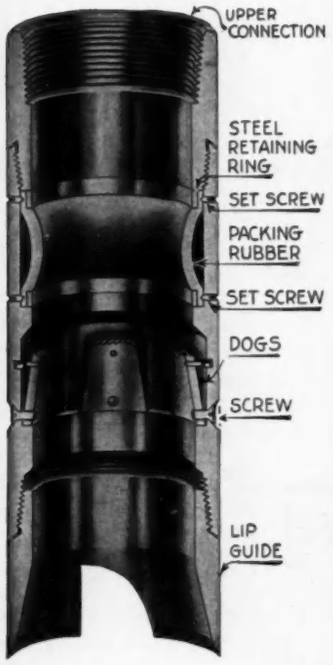
Company, Well and Location	Init. Prod. Bbls.	Depth
BOSSIER PARISH (Sligo)—		
Producers O&G Co., Inc., W. H. Werner 1, se se 7-17n-11w	¶16½	3285
DE SOTO PARISH—		
L. H. Alderson, P. B. Peak 1, nw ne 25-11n-13w	*	3070
D. H. Sebastian, Jr., W. H. Hill 1, nw se 3-10n-13w	*	1785
SABINE PARISH (Zwolle)—		
Foster & Hartman, Bowman-Hicks 1, nw ne 10-7n-12w	*	2696

*Failures; †Junked; ¶Million cu. ft. gas.

THE
RIGHT TOOL
ON THE JOB

available for immediate use will eliminate practically all the long-drawn-out, hazardous and expensive

FISHING JOBS



The GRAY OVERSHOT

is a fool proof, efficient tool which will recover practically 100% of all drill stem fishing jobs, if run before pipe has time to stick.

POSITIVELY RELEASABLE

Keep a GRAY OVERSHOT on your derrick floor at all times, ready for running down and picking up twisted off pipe before it has gotten stuck . . . avoiding a long-drawn-out, hazardous, and costly fishing job, or even the loss of the hole.

Phone Wayside 2111

GRAY
TOOL COMPANY
Houston, Texas

Rainbow City Strikes Boost Arkansas Work to New High

El Dorado, Ark.—Ten new locations were announced last week in the Rainbow City (Champagnolle) field, Union County, Arkansas, where two flowing wells have been recently completed at the 3360-foot level in a new sand in the upper red bed series of the lower Cretaceous, 150 feet below the former producing horizon.

This is the largest number of new tests announced for any field in one week in Arkansas since 1928.

The following are the new locations announced last week: J. E. Crosbie, Incorporated, T. E. Adams 1, 330 feet north and east SWc NW 11-17-14, rigging; H. L. Hunt, Incorporated, E. F. Gregory 13, 330 feet south and east NWc SW SW 11-17-14, rigging; E. F. Gregory 14, center NW SE SE 10-17-14, materials; J. D. Gregory 10, center NW SW SE 10-17-14, materials; M. B. Ingalls et al, A. J. Perdue 1, 330 feet north and west SEc NW SW 4-17-14, location; Lion Oil & Refining Company, E. F. Gregory B-1, 330 feet north and east SWc SE NE 10-17-14, rigging; J. M. Gregory A-1, 330 feet south and east NWc NE SW 11-17-14, rigging; H. L. Rowland 6, 330 feet south and west NEc 15-17-14, materials C. E. Murdock, Incorporated, J. M. Gregory 8, NW NE SE 10-17-14, moving in rig; J. M. Gregory 9, center NE NE SE 10-17-14, materials.

Both of the wells completed in the new sand, known as the Taylor sand, are continuing to make in excess of 700 barrels of clean oil daily through tubing and choke. The discovery well of the new sand, Short & Hayes' Taylor 1, Section 10-17-14, had the following daily gauges, recently: 825 barrels; 799 barrels; 808 barrels; 768 barrels; 756 barrels, 743 barrels; 738 barrels, contamination being six-tenths of one percent and temperature 78. The well was completed as a 1000-barrel well, flowing through choke and tubing.

Following are among recent lease transactions in the Rainbow City field: J. S. Rushing, Trustee, paid Edgar C. Johnson $750 per acre cash and an equal amount of oil for south half NW SW 10-17-14 and a triangular shaped lease in SW NW 10-17-14; Lion Oil & Refining Company bought NE SW 11-17-14 for $500 per acre cash and the same amount from production; Marine Oil Company bought west half SE quarter and west 23 acres of SE SE 11-17-14 for $200 per acre cash and $400 from production and the west half SW NE 10-17-14, offsetting the discovery well in the new sand to the north for an undisclosed amount of cash and an overriding royalty.

Jovian Oil Company's Perdue 1, Section 3-17-14, more than a mile north of the two new horizon producers, missed a planned drill stem test of the Gregory sand at 3274 feet last week when the testing tool hung before reaching bottom. It is designed for the 3360-foot level. This test logged top of Blossom (Ozan) at 2780 feet and tested a show of oil and gas and no water when formation tester was run at 2780-92 feet; elevation is 206 feet.

New developments at Rainbow City have inspired some wildcatting in Union County. Joe B. Hurley of El Dorado is assembling a wildcat block in township 18, range 11, Union County. George L. Pace in the same county has assembled a wildcat block and has derrick up for Union Sawmill Company 1, 330 feet south and west NEc NE SW 24-18-12.

Two Wildcats in Arkansas Abandoned

El Dorado, Ark.—Two wildcat tests were abandoned last week in Arkansas, one in Hempstead and one in Union County. These were the only completions in Arkansas during the seven-day period.

Completions last week in Arkansas follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
HEMPSTEAD COUNTY—		
Arkansas Drilling Co., G. W. Jones 1, ne se 11-14-24	*	3055
UNION COUNTY—		
Joe Modisett, Union Sawmill Co. 1, nw se 14-18-14	*	2666

*Failures; †Junked; ¶Million cu. ft. gas.

Jackson Field Gets Another Gas Producer

Jackson, Miss.—One gas well was completed last week in the Jackson gas field, which has been at a low level of activity in recent months. Gas from this well will be transported through the proposed gas line from Jackson to Canton, Mississippi, for use in that city.

The new well with elevation of 291 feet logged top of the black shale at 2345 feet and top of Midway chalk at 2448 feet, going six feet into chalk before being completed as a 27,124,000-foot gasser with 945 pounds rock pressure.

The Mississippi completion follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
HINDS COUNTY (Jackson)—		
City of Canton, Belhaven College 2, se se nw 35-6n-1e	¶27	2454

*Failures; †Junked; ¶Million cu. ft. gas.

South Alabama

Mobile, Ala.—Danciger Oil and Refining Company is expected to make an early location on a large block of leases in Baldwin County, south Alabama. This company recently is reported to have obtained approval by the federal government of a lease on the 90-acre site of old Fort Morgan, which is in the block, for a consideration of $2.50 per acre and the lease is said to carry a 90-day drilling clause. Danciger started assembling the block several months ago.

Suits that express

QUALITY-

• To us, as it is to men of discriminating taste, a suit is more than just pants, coat and vest.

Forty-five to fifty hours are spent in the creation of our individually tailored suits. Designing, fitting and assembling are done by skilled craftsmen whose art does not countenance the sacrificing of quality for time. As a consequence, Hamilton Bros. Custom Tailored Suits, of the finest imported woolens, at $85.00 up, are a sound investment in comfort and distinctiveness of personal appearance.

Hamilton Bros.

Established 1883

510 MAIN ST., HOUSTON, TEXAS

"THE WELL DRESSED MAN KNOWS HAMILTON QUALITY"

Cooper Field Must Be Classified as Major Discovery

Hobbs, New Mexico.—Destined to be listed among the major oil discoveries in 1934, the Cooper field, Lea County, strengthened its position for such a rating during the past week by completing three new wells, including one producer estimated at 15,000 barrels daily. The field now has 20 completed wells, all prorated to 154 barrels daily, and 12 additional operations on the active list in an area extending about five miles in a north and south direction, with a maximum width of one mile. No failures have been drilled, although one east side well has been completed as a gasser after plugging back from bottom-hole water.

The south end of the Cooper field yielded the largest producer for the area December 2 when The Texas Company's N. Everett 1, C SE NW 35-24s-36e, indicated a potential flow of 15,000 barrels of oil and 9,500,000 cubic feet of gas daily from saturated lime at 3426-3443 feet. Tested via two four-inch flow lines extending from seven-inch casing to separator and slush pit, this well produced 38 barrels of oil into separator within 10 minutes, with a like amount going into pit. It was shut in because of inability of the separator to handle the oil and gas production from the single flow line. A big well was expected, as it had previously flowed 109 barrels per hour on drill stem test, thereby furnishing a surprise development as the east offset proved to be a small well at a lower depth. Everett 1 logged top of brown lime, structural position marker, at 2940 feet, or 348 feet above sea level, and was drilled to a sub sea depth of 155 feet. The Texas Company's Ogg 1, the east offset, hit the brown lime at plus 398 feet, and was drilled to a minus depth of 245 feet. Rigs have been moved in by The Texas Company to drill two more wells on the Ogg permit.

Amerada Petroleum Corporation's N. Everett 1, C NE NW 35-24s-36e, a north offset to the above record producer, is being counted up to register a big flow when completed early this week. Top of brown lime was logged at 2937 feet, or 362 feet above sea level, and oil pay at 3425-3453 feet. The hole is bottomed at 154 feet below sea level.

Continental Oil Company and The California Company, holders of a large amount of government permit acreage in Lea County on a basis of 75 percent and 25 percent, respectively, completed their first producer in the Cooper field last week. Their R. L. Gates 1, C NE NW 23-24s-36e, situated in the northeast sector, gauged 75 barrels of oil per hour through open 2½-inch tubing from lime at 3500-3515 feet. The gas volume was estimated at 11,300,000 cubic feet daily. It was drilled to a sub sea depth of 178 feet.

Eight producers have been completed on the joint property of Phillips Petroleum Company and Pure Oil Company, and two other tests are due to be on production before the end of the year. Their C. D. Woolworth 6, C NW NW 26-24s-36e, averaged 166.35 barrels per hour on 5½-hour gauge through 2½-inch tubing from saturated lime at 3465-3495 feet. The gas production was placed at 1,400,000 cubic feet daily. This well logged top of brown lime at 2900 feet, or 425 feet above sea level, and was drilled to a sub sea depth of 170 feet. Seven-inch casing,

No Barker needed for polished rod Quality

THE BARKER that signals uninterrupted operation sings its sweetest when pumping wells are fitted with Monel Metal polished rods.

Take a lease where salt water and corrosion play hob with steel rods. You may find they last only 90 days before they're so pitted that they literally grind up packing and ruin glands.

If that's a common occurrence with you, replace the rod in your worst well with a polished rod of Monel Metal... *and forget it.*

After 90 days, you find it still smooth. And often after 900 days, too. Some Monel Metal rods have gone more than 1800 days... five full years... without replacement!

Monel Metal proves out. It's no "duster" on quality. It combines rust-proofness, resistance to corrosion, and tough strength. That's why oil men who are prospecting for reduced costs are turning more and more to Monel Metal... for polished rods, drop and seat valves, rotary mud screens and other oil field equipment.

If you're up against corrosive wells there's a good chance that Monel Metal can lick your problem... and *is* licking it for some other oil men under conditions similar to yours. Write for the facts.

• • •

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.

Monel Metal is a registered trademark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

Monel Metal

Hundreds of corrosive wells now use Monel Metal polished rods. Note the smooth, uncorroded condition after years of service.

cemented at 3460 feet, was tested for 1200 pounds pressure before plugs were drilled.

A northeast outpost test for the North Jal field, which may eventually be linked with the Cooper area, as the two-mile interval has not been explored, failed to make an oil producer late last week after drilling below the usual oil horizon. Continental Oil Company and The California Company's R. L. Wells 2-A-12, C NW NE 12-25s-36e, passed up 18,000,000 cubic feet of gas at 3343-50 feet, and has apparently missed the usual oil saturated lime horizon in drilling to 3518 feet, or 321 feet below sea level, with increase noted in sulphur water below 3359 feet. It will be plugged back to complete as a gasser.

R. H. Henderson et al have made locations for tests to be drilled on the northwest and to the east of the North Jal area, P. G. Langley 1, C SE SE 8-25s-37e, is about two miles east of nearest oil production, but in semi-proved gas territory. The other location, I. B. Ogg 1, C NW NE 11-25s-36e, is about one-half mile northwest of a small oil and gas producer. Repollo Oil Company, subsidiary of Sinclair Prairie Oil Company, has moved in materials to drill T. M. Conditt-Pure 2, C NW NW SW 12-25s-36e.

Successful use of acid in a doubtful producer on the east flank of the Eunice field, which has 32 completed oil wells scattered over an area more than a mile in width and 5½ miles long, forestalled the completion of the first dry hole on or near the structure. Injection of 3000 gallons of acid solution in Shell Petroleum Corporation and Devonian Oil Company's State 1, C SW NE 20-21s-36e, after plugging back from sulphur water at 4175 feet to 4040 feet, developed a steady flow of oil with small volume of water estimated at 1500 barrels daily. The normal oil horizon was cored and formation tester used seven times at intervals. Seven-inch casing was cemented at 3850 feet, or below the sulphur water zone overlying the oil pay. The well flowed over the crown block when opened up after being shut in for 84 hours to permit the chemicals to penetrate the lime section under pressure.

Shell Petroleum Corporation's State-Endura 1, C SE NE 12-21s-35e, wildcat situated 1½ miles west of nearest oil production on the north end of the Eunice field, developed more gas production at 3329-3334 feet, and blew out. It was rated at 38,000,000 cubic feet daily, and has since progressed to the 3352-foot level. This wildcat logged top of brown lime at 3020 feet, or 568 feet above sea level.

Efforts to extend the Hobbs field to the northwest will be waged by two of the trio of new locations staked last week. Amerada Petroleum Corporation and Skelly Oil Company are moving in materials to drill State 1-E, 1650 feet from the north and 330 feet from the east lines of W½NW 24-18s-37e. Shell Petroleum Corporation's State 2-D, 660 feet from the north and 330 feet from the east lines of E½ NW 24-18s-37e, will be a northeast diagonal offset. The latter has also made location for Sanger Investment Company 2, located 330 feet from the south and 1325 feet from the west lines of 27-18s-38e, or on the east flank of the structure.

Deferred proration gauge given Southern Petroleum Exploration, Inc., and Oil Well Drilling Company's W. D. Grimes 1, SWc NE SE 20-18s-38e, credited the well with an open flow of 8126 barrels of net oil plus 34 percent b.s. and six percent sulphur water, after treating with acid at 4203-44 feet. The gas yield was estimated at 8,000,000 cubic feet daily. It is a northeast edge well. The allowable production was placed at 124 barrels daily.

Another slight shrinkage in the allowable production of the Hobbs field was put into effect December 1 when the quota was cut to 31,014 barrels daily. The average unit potential of the 216 producing wells now aggregate 2,179,464 barrels daily, according to revised figures presented by C. G. Staley, state proration umpire.

Quealy Dome Discovery

Laramie, Wyo.—Reports that The California Company's Holst 1, NE SE SE 13-17n-77w, on the Quealy Dome structure, Albany County, was completed a week ago for 500 barrels initial production, proved premature according to late word received from E. G. Lawson, manager of the northern division of the company. He reports that that test is running rods and tubing to pump. Hole bottoms at 3175 feet with the 9⅝-inch casing cemented at 3141 feet on top of the Muddy sand.

Closure of Garland Dome Fault Block Area Found

Cody, Wyo.—Closure to a second fault block area in a northern Wyoming field was proved this week when Peter Evanoff and Sidney H. Keoughan's Griffin 1, Lot 60, Section 4-55n-97w, had an estimated 10,000,000 cubic feet of gas in a blow out at 1666 feet in the Frontier series. The well opens up the huge fault block area in the north of the Garland Dome oil field. The well had an estimated 75 barrels daily of light oil in the upper Frontier at 995-1030 feet.

Early in September Dry Creek Oil Company proved closure in the north fault block area of the Oregon Basin field, completing a 12,000,000 cubic foot gas well in the third Wall Creek sand. Results of the two tests are expected to considerably stimulate drilling in fault sectors, which have tremendous drainage. Below the Frontier series is the Pennsylvanian with several producing strata where black oil is encountered in developed sections of the feild.

In the Garland field, Big Horn County, Garland Oil Company has two tests underway in the north fault block and is letting contracting for a third deep test. Company's Government 2, SE NE NW 14-56n-98w, skidded rig 10 feet west, because of frozen pipe. Victor Cotner 1, NE SE NW 10-56n-98w, is rigged with cable tools. Both tests are powered with electricity.

In the Byron field, adjoining Garland Dome, Ohio Oil Company is waiting on cement to set around the 12¼-inch casing at 1420 feet.

Osage Field Test Is Near Completion

Osage, Wyo.—Western State Oil Company's Julius Bock 10, CWL SW NE 14-46n-64w, in Osage field, Weston County, Wyoming, is a near completion, having run the 6⅝-inch string to the top of the Newcastle sand with depth unnamed. Irene Eaton's Fee 14, CSL NE SW 30-46n-63w, is recementing the 8¼-inch casing on top of the sand. Labert Jones' Julius Bock 8, SW SW NE 21-46n-63w, is shut down at 180 feet, while LaFleische Oil Company's Fee 18, CSW SW 17-46n-63w, is shut down after spudding.

SPECIAL JOB? Come to
LUDLOW
We build valves to handle all sorts of pressures and services. You will find a thorough knowledge of oil and gas requirements at Ludlow. The design will be right, and performance will be what you want.
LET US QUOTE YOU ON YOUR NEXT SPECIAL JOB
"If it's a gate valve, Ludlow makes it."
The LUDLOW VALVE MFG. CO., TROY, N. Y.

Hidden Dome Well Completed Last Week

Worland, Wyo.—Bruce Teeters et al have taken over D. L. McDonald's State 1, CSE SE SE 36-48n-91w, in the Hidden Dome field, and completed the well for 35 barrels daily of 56 gravity crude along with 2,500,000 cubic feet of gas, which is being run through the separator. Production is coming from a sand at 1603-54 feet in the Frontier series. Chris Oil Syndicate is running the 8¼-inch casing to shut off water and drill deeper in Government 1, CSW SW 31-48n-90d, which had some oil and water in a sand at 1510-50 feet. Hole bottoms at 1570 feet.

Craig, Colo.—Stanolind Oil & Gas Company is spudding No. 22 S-D Shaw, NW SE NW 27-4n-92w, an inside location in the southern sector of the Iles Dome field, Moffat County, northwestern Colorado.

Cut Bank Townsite Well Exceeds Expectations

Cut Bank, Mont.—R. C. Jeffries' Lukens 1, CSE SE 1-33n-6w, the first townsite well to drill into oil production here considerably exceeded production predictions, as this week the well swabbed 328 barrels initial and now is pumping at the rate of 175 barrels daily.

Watson et al spotted their second town test this week, Simero 2, CSE 1-33n-6w, aproximately a quarter of a mile northeast of Simero 1, which was a failure. Failure of Simero 1 is considered to have little indication as to what the outcome of the new test will be, for like the five other failures out of the 114 completions within the proved limits of the field, it is located near good production and encountered the Cut Bank sand which had poor porosity at that location.

The Texas Company is drilling in Kneale 1, CSE NW 14-35n-6w. The seven-inch production string is set at 2880 feet. Completion of the well will finish The Texas Company's 1934 drilling campaign at Cut Bank.

Dry Creek Well Is Being Completed

Billings, Mont.—Ohio Oil Company is running rods and tubing to complete Agnes Maddox 14, NW NW 10-7s-21e, in the Dry Creek field, Carbon County, Southern Montana. Hole is plugged back to the Dakota sand at 5950 feet, where test will make a small oil well. Test is an outside location on the southern edge of the field. It had water in the Dakota sand, principal producing horizon in flush Dry Creek field.

Mountain States Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GLACIER COUNTY (Cut Bank Field)—		
Texas Co., Kneal 1, cse nw 14-35n-6w	207	2932
COLORADO		
BOULDER COUNTY—		
L. R. Steele, Coles 1, nw nw ne 33-1n-17w	¶¼	3520
NEW MEXICO		
EDDY COUNTY—		
R. D. Compton, Price-State 1, ne sw 15-16s-23e	*	952
SAN JUAN COUNTY—		
Continental Oil Co., Rattlesnake 39 nw se nw 12-29n-19w	60	797
LEA COUNTY (Cooper Field)—		
Continental Oil Co.-California Co., R. L. Gates 1, c ne nw 23-24s-36e	¶11¼-3000	3515
Phillips Pet. Co.-Pure Oil Co., C. D. Woolworth 6, c nw nw 26-24s 36e	¶1½-5000	3495
The Texas Co., N. Everett 1, c se nw 35-24s-36e	¶9½-15,000	3443
LEA COUNTY (Eunice Field)—		
Shell Pet. Corp.-Devonian Oil Co., State 1, c sw ne 20-21s-36e	1000	4175
LEA COUNTY (Hobbs Field)—		
Southern Pet. Exploration, Inc. & Oil Well Drlg. Co., W. D. Grimes 1, swc ne se 20-18-38	¶8-8125	4244

*Failures; †Junked; ¶Million cu. ft. gas.

MORE LARKIN Float Shoes were used in the East Texas field during 1932-33-34 than all other makes combined!

We feel that this one big fact, more than any other, indicates the real confidence that operators place in LARKIN Equipment. In the intricate, important job of cementing a well, every unit that goes into the process must be efficient—dependable. The Float Shoe, the controlling factor in cementing, ***must do a good job!***

Larkin Float Shoes and other Oil Well Tools are noted for leadership in design—correct metallurgical specifications—accurate machining—and absolute dependability.

At All Supply Stores.

Warehouse stock at Houston, Texas, Tulsa, Okla., and in East Texas.

LARKIN PACKER COMPANY, ST. LOUIS

LARKIN PACKER CO.

California Shipments Total 5,716,155 Barrels in Oct.

Los Angeles.—During October a total of 5,716,155 barrels of crude oil and petroleum products were shipped by tankers out of California to points other than intercoastal points. Of this total, 717,891 barrels were crude, 2,188,137 barrels were fuel oil and 1,804,906 barrels were gasoline.

Of the total movement of all products, 1,801,480 barrels moved to Atlantic domestic, 267,844 barrels to Atlantic foreign, and 3,025,061 barrels to Pacific foreign. The balance of the total consisted of other miscellaneous products.

Total of 328,649 barrels of miscellaneous products were shipped in packages during October.

Baldwin Hills Well Is Completed for 1500 Barrels

Los Angeles.—In the Baldwin Hills at Inglewood, Standard Oil Company of California's Vickers 1-27 has been completed for 1500 barrels of 25 gravity clean oil at a plugged depth of 3485 feet. Old bottom had been at 3535 feet. This well had a large hole and 10¾-inch casing was cemented at 2602 feet. String of 6⅝-inch pipe, including 424 feet of perforated, was landed at 3475 feet of gas and two 1⅞-inch chokes are used.

Associated Oil Company is ready to complete Vickers 50 in this field at 3225 feet. The well flowed for 15 minutes and then quit. Shell Oil Company is bailing Rindge 2 at 2606 feet. The Texas Company's Moynier 1 is in a fair oil sand at 3480 feet, and will test with a formation tester at 3420 feet.

Western Consolidated Oil Company's Pollard 1, deep test on the Culver City side of the field, with old bottom at 5588 feet, is testing by stages. With a plug at 5347 feet and perforations it pumped 15 barrels of oil. With plug at 5172 feet and perforations at 5154-70 feet, it pumped water. Other tests are being made by stages. Only six wells are actively drilling in the field.

92 Natural Gasoline Plants In Operation in California

Los Angeles.—During October 92 natural gasoline plants were in operation in California, according to the monthly Bureau of Mines report, and these plants treated 28,265,064 cubic feet of natural gas and produced 43,735,443,000 gallons of natural gasoline. The daily capacity of the plants operating was 2,290,337,000 cubic feet of gas.

Stocks of natural gasoline in California at end of October were 3,131,436 gallons, against 3,393,377 gallons end of September.

Los Angeles.—During October, 51 refineries with a daily throughput capacity of 768,435 barrels were operating in California. Total of all products used for cracking was 5,316,382 barrels.

Additional Gas Found By Northeast Utah Test

Rock Springs, Wyo.—Cores taken in a sand in the Morrison formation at 6030 feet revealed additional gas saturation in Mountain Fuel Supply Company's R. D. Murphy 2, CSL NE NE 21-3n-24e, drilling on the Clay Basin structure, Daggett County, northeastern Utah, to develop additional gas reserves for company's Salt Lake City distribution. The well shut down this week at that depth because of a severe snow storm. Company may not resume drilling until spring. Hole is bottomed an estimated 200 feet off its next major objective, the Sundance formation, which is a prolific sand in the Iles Dome field in northwestern Colorado. The Murphy well gauged 22,000,000 cubic feet daily open flow of wet gas from four sands in the Dakota series.

Tow Creek Field

Florence, Colo.—The Texas Company is plugging and abandonning Quaintance-Hocking 8, NE SW NE 18-6n-86w, in the old Tow Creek field, near here, in Routt County. The test drilled to 3590 feet and was a failure.

Kettleman Hills Edge Well a Disappointment

Los Angeles.—One new completion at Kettleman Hills the past week was a disappointment, as it only made 1200 barrels of 37.2 gravity clean oil with 650 pounds pressure on the tubing and 1260 pounds on the casing. It was Standard Oil Company of California's No. 87-19J, in Section 19-21-17, with bottom at 8600 feet. It is an edge well.

Kettleman North Dome Association's No. 61-34J, with bottom at 8270 feet, started out making 7670 barrels of 35.4 gravity oil and 6,900,000 cubic feet of gas, but is making some water and will have to be worked on again before being permitted to remain on production. This hole has 9⅝-inch casing cemented at 7390 feet and the 6⅝-inch string was perforated at 7428-7505, 7674-7874 and 8118-8276 feet. Three-inch tubing was run to 4998 feet.

Standard Oil Company of California stopped drilling at 8631 feet on No. 78-19J and is laying flow lines, getting ready for placing on production. String of 9⅝-inch casing was cemented at 7767 feet. The flow line has been run, perforated at three points.

Five new wells are starting at Kettleman Hills, three being started by Kettleman North Dome Association and two by Standard Oil Company of California. Twenty wells are now actively drilling in the field.

Kern County

Los Angeles.—Standard Oil Company of California is preparing to drill a wildcat near Kernell, in Kern County, about 1½ miles east of Trico Oil & Gas Company's Magee & Stone 2, which was completed for 2,000,000 cubic feet of gas. Standard Oil Company of California figures the Trico Oil & Gas Company test to be located on the west edge of the structure and the new test is to be Section 1-25-23.

New Wells Started in Venice Extension Area

Los Angeles.—Chas. W. Fourl's extension well south of the old Venice field has been beaned back until the average the past week was about 2800 barrels of 24.3 gravity oil and 3,000,000 cubic feet of gas. Fourl will drill a second well at once on his 27-acre lease, but so far has not erected derrick.

Union Oil Company has derrick up for Vidor 6 near the highway north of the Fourl well, and big Ben Oil Company is drilling its No. 1 on top of the Playa del Rey Hills about 2000 feet east of the Fourl well.

Madison Oil Company is building derrick and The Petrol Corporation has staked a location, the last two named also being on the hill, in the general vicinity of the new producer.

Owners of homes in the Playa del Rey Hills, at least a mile south of the Fourl well, are not anxious for drilling to approach too close to them, and city officials are going slow in issuing building permits for derricks, boilers, storage tanks, etc. For these and other reasons, developments are expected to be slow in the new area.

Two New Wells Are Completed in Mesa Pool

Los Angeles.—The shallow Mesa field at Santa Barbara reported only two completions the past week for a total of 2370 barrels of flush production with one new well spudded and five new wells preparing to start drilling at once. Five wells are actively drilling and five new rigs are up.

New wells are being completed at 2000 to 2100 feet and the oil has a gravity of 20.5. The oil is usually clean, but has to be moved away in tank trucks and trailers, as the field has no pipe line.

New wells usually come in flowing, but within three to six weeks have to be placed on the pump.

Ten California Wells Produce 12,000 Barrels

Los Angeles.—Ten completions in California for the week with 12,000 barrels of flush production makes the two weeks record 29 new producers and 27,670 barrels of flush production.

North Belridge with a 2500-barrel well, a 2400-barrel well at Mountain View, one for 1500 barrels at the Mesa, and another well of same size at Inglewood, left Kettleman Hills in the rear, as the one well in that deep field was good for only 1200 barrels.

It is possible that the record for completions in California in December will exceed November, which was one of the best months in the year.

Company, Well and Location	Init. Prod. Bbls.	Depth
INGLEWOOD—		
Standard Oil Co., Vickers 1-27	1500	3485
BREA CANYON—		
General Pet. Corp., Tonner 15	 650	2314
DOMINGUEZ—		
Shell Oil Co., Reyes 61	 600	4360
KETTLEMAN HILLS—		
Standard Oil Co., No. 87-19J	1200	8600
BELRIDGE—		
Belridge Oil Co., No. 10-35	2500	5442
MOUNTAIN VIEW—		
Hancock Oil Co., Miller 1	2400	5435
MESA—		
Barmesa Oil Co., San Chez	1000	2022
Fair Acres Oil Co., Ancherdogay 1..	350	3130
EL CAPITAN—		
General Pet. Corp., Erburu 11.....	350	3130
SESPE—		
Tapa Tapa Oil Co., No. 1	300	3000

*Failures; †Junked; ¶Million cu. ft. gas.

California Idle Wells Have Potential of 233,417 Barrel

Los Angeles.—Although there are only 4471 idle wells in California capable of producing, the smallest number for years, these wells have a potential of 52.2 barrels each a day, and if all were placed on production, they would make 233,417 barrels, estimated total.

More than half of the shut-in wells of the state are in the San Joaquin Valley field, which has a total of 2895. Of this total 1105 are credited to the old Kern River field, with a per well potential of 5.8 barrels. In the old Midway-Maricopa area, there are 667 idle wells with a per well potential of 13.2 barrels. Strange as it may seem, there are 14 idle producers at Kettleman Hills with a per well potential of 2140.7 barrels. The large potential of the Kettleman Hills wells helps to considerably increase the estimated potential of the idle producers in the San Joaquin fields, and the total idle in the state, for that matter.

In the North Belridge field, there are 22 shut-in wells with an average per well potential of 1013.5 barrels. The shut-in producers in the South Belridge field, 106 in number, have a potential of only 13.9 barrels.

In the Coastal area fields, Ventura Avenue has 110 shut-in wells, good for 189.6 barrels per well. At Elwood, 27 wells good for 608.5 barrels each are shut in. The only two producers at Gato Ridge are shut in and could make 405 barrels each. In the old Santa Maria field, there are 246 wells off production with an average potential of 49 barrels per well.

There are only 965 shut-in producers in the Los Angeles Basin fields, and they are credited with an average potential of 83.1 barrels per well. Santa Fe Springs has 165 idle producers and Long Beach is credited with 127. Huntington Beach has 144 and Torrance has only 44. Not a shut-in well in the basin has a potential of less than 11 barrels, and most of them, ranging from 20 barrels up to 263.2 barrels at Dominguez, where 52 are shut in.

In a number of instances, producers are allowed to transfer their allotment from one lease to another, providing other producers offer no objections. In this manner, some of the potential credited to shut in producers, is coming from other wells on production. Practically all of the shut in wells are favorably located, in that wells on offset leases are also idle, thus losing no oil by drainage. In some of the old fields in San Joaquin Valley, large leases are entirely closed down, and the owners are really storing the oil in the sands where there can be no loss of any kind, and can be recovered when needed.

NO. 1 PLAIN
1" TO 2"

"TOLEDO"

ANNOUNCES NEW LOWER PRICES

—on No. 1 and No. 1A 1" to 2" threaders.

Increased demand and greater production make these new low prices possible.

The same high quality material and workmanship that made these tools the leaders for thirty years. The lowest prices ever placed on these popular threaders.

The same quality built 1" to 2" tools that are known everywhere for their ease of operation, perfect work produced, and long life.

Now more than ever before you save with "TOLEDO" No. 1 or No. 1A threaders.

Your dealer will be glad to fill your needs at this low price.

No. 1 Plain 1" to 2" Adj. Threader
New Lower Price **$9.00**

No. 1A Ratchet 1" to 2" Adj. Threader
New Lower Price **$11.25**

(F. O. B. Toledo or Dealer's Stock)

See Pages 496-497 Composite Catalog for Complete Line

The TOLEDO PIPE THREADING MACHINE CO. Toledo, Ohio

NEW YORK OFFICE AND DISPLAY
72 LAFAYETTE ST.

NO. 1A RATCHET
1" TO 2"

North Belridge Well Ready to Test Sand

Los Angeles.—Belridge Oil Company's No. 16-35, Section 35-27-20, North Belridge field, Kern County, is about ready for a production test with bottom at 8905 feet, in the new lower zone. This hole has 8⅝-inch casing cemented at 8385 feet and ran in 575 feet of 6⅝-inch liner, which includes 525 feet of perforated, landed on bottom.

In this same field, Ohio Oil Company's Bloemer 1, Section 36-27-20, which was drilled to 8525 feet, and flowed at a 1400-barrel rate on a production test, is to be killed and drilled deeper. The production decline was very fast. The well made 33 gravity oil with 6⅝-inch casing cemented at 8415 feet.

Casa Mira Oil Company's Theta 1-A, Section 29-28-20, bottom at 6504 feet, ran 4¾-inch casing to bottom and used 1590 feet of perforations, preparatory for a production test.

Continental Oil Company's Result 5 is drilling at 8140 feet in hard sand with seven-inch pipe cemented at 7853 feet.

Standard Oil Company of California's McPhail 1-A is drilling at 4727 feet with 18⅝-inch casing cemented at 1219 feet, while Union Oil Company's Belridge 18 is milling on iron at 8235 feet, with bottom at 8523 feet. String of 8⅝-inch pipe has been landed at 7797 feet.

California Wildcat Work Shows Upward Spurt

Los Angeles.—During the week ending November 30, five new wildcats started drilling in California, four of them in Kern County and one in Kings County, and during the same period four rigs were built and three locations announced, all wildcats. The new work is divided about equally between major and independent companies.

In Kern County, Shell Oil Company has rig up for a new wildcat in the Buena Vista Lake area, and Standard Oil Company of California made locations for a wildcat near Kernell and another near Lost Hills. The Texas Company started drilling November 30 on Jared How 1 in Gould Hills. Richfield Oil Company is ready to start drilling its Alferetz 2 at Devil's Den.

General Petroleum Corporation has rig up for Martin 1, in Section 20-24-20, near Pyramid Hills, in Kings County. In this same county, Commonwealth Consolidated Gas Company is rigging rotary for No. 2, in Section 21-22-20.

The Texas Company has started drilling Circle Oil Co. 1, Section 35-20-14, in Humboldt County.

Near Delano, in Kern County, Cimarron Oil Company started drilling on Quinn 1, in Section 14-25-27. Seacliff Oil Company is rigging rotary to start Houghton 1 at Green field, in Section 7-31-28.

There is a constantly growing demand for likely wildcat acreage in larger blocks, but this demand is largely for acreage in San Joaquin Valley and north. There is little interest being shown in Southern California wildcat acreage.

The major companies and larger independents are showing indications that they want to build up the future supply of oil in sight. It is true the state has more than 4000 wells shut in, which are capable of producing, but the state has not discovered a field of real importance in several years. There is plenty of oil in California for the next two years, but after that, there is a real doubt.

Wheeler Ridge Area

Los Angeles.—Reserve Oil & Gas Company of San Francisco has blocked 2500 acres of leases in the Wheeler Ridge area of Kern County and derrick is being erected about three miles east of Badger Oil Company's El Tejon 1, which is standing with plug at 4100 feet after drilling to 6229 feet. A campaign of core drilling decided the company on drilling the new wildcat.

Michigan Allowable Is Returned to October Basis

Mt. Pleasant, Mich.—Michigan's proration schedule was returned December 1 to its October set-up of 50 barrels per well exemption and five percent of the per well production over 50 barrels. It was cut during November to 50 barrels and two percent.

Based on the estimated run reported for November, Michigan actually produced only 791,358 barrels for the month or an average of slightly more than 26,370 barrels daily while the state's allocation for that month was 29,000 barrels daily. The December allocation is 27,900 barrels while the proration schedule is based on anticipated runs of 28,193 barrels daily.

The December schedule follows:

Pool	No. Wells	Potential	Est. Runs
Porter	270	138,741	19,260
Yost-Jasper	14	3,665	592
Greendale	303	3,832	3,692
Vernon	53	2,814	2,562
Leaton	29	680	564
Montcalm	4	661	392
Beaverton	1	30	30
Ogemaw	22	925	333
Saginaw	101	101	101
Lapeer	4	20	20
Oceana	17	319	319
Muskegon	139	328	328
Total	965	152,116	28,193

State Lands in Gladwin County Bring Good Prices

Mt. Pleasant, Mich.—A total of 2682 acres of state owned land, all classified as wildcat, located in Gladwin County, 17n-2w, Beaverton township, offered at public auction by the Land Division of the State Conservation Department brought a total of $10,820 or an average of $4.03 per acre, December 3. The price per acre was among the highest ever paid at a state sale, although individual descriptions in other sales had brought higher bids than the highest single bid in the December 3 sale.

Ohio Producing and Refining Company, represented by C. P. Ernie, bid off what was considered the "prize" acreage in the sale, 87.41 acres N½ NE-3, for $2425 dollars or an average of $27.75 per acre. This tract is located approximately one mile northwest of a wildcat producing oil well brought in on October 25 by M. F. Whitehill, Jr., on Kintner 1, 17n-2w-11.

Other successful bidders included Sun Oil Company, J. W. Leonard, Talbot Oil Company, Smith Petroleum Company and Strange and Fortney Interests.

About 30 representatives of major and independent companies were among the bidders.

The December 3 sale was the fire of state owned lands in Gladwin County since the discovery of oil in October. Gladwin County is classified as virgin wildcat and now looms as the "hot spot" for new development in Michigan. Whitehill's Kintner 1 is producing from a lime formation at approximately 3860 feet and has a potential of from 30 to 70 barrels daily, based on available records. Although pay lime was drilled into in October the test as yet has not been officially completed. Operators plan either to deepen or to treat with acid at its present depth.

The relatively high average per acre price paid for acreage at the state sale is a fair indicator of the interest the area is commanding.

Another reason companies showed unusual interest in the sale was that state-land titles are regarded as the best available in Michigan and in recent weeks it has developed that the Gladwin area may produce more than the ordinary title difficulties on privately leased property.

State leases are for five years and call for a rental of 50 cents per acre the first year and $1 per year for the remainder of the lease's duration unless drilled on. A straight one eighth royalty to the state is mandatory on wildcat leases. On leases classified as in proven territory the royalty is based

on a sliding scale ranging from one-eighth to one-fourth of production.

At present there are approximately 53,000 acres of state owned land under lease in Michigan. There are about 2½ million acres of state owned land.

Records show 24 producing oil wells on state leases and one gas well. As of November 1, royalties paid to the state totaled $213,000; rentals $110,000 and bonuses $351,000.

Michigan Wildcat Work Continues to Increase

Mt. Pleasant, Mich.—New locations calling for wildcat tests in five counties which have not seen activity in months along with prospects of additional wildcatting in several other districts promises to pitch development in Michigan to its highest winter level.

Work in proved areas has measurably slowed up but prospecting over widely unexplored districts evidences a comparatively high level of work during the winter. Permits were issued this week for tests in Kent, Roscommon, Alcona, Mason and St. Clair counties. Recent core testing and developments in other areas indicating these counties may be on a general trend account largely for the increase in wildcatting.

H. H. Brown's Bower 1, Macomb County, 3n-14e, Section 29, originally drilled to 1545 feet and temporarily abandoned at that depth has been skidded over and will be made a deep test, now drilling at 650 feet.

In Barry County, Barry Oil Development Company's Kinnie 1, 3n-6w, Section 11, shut down at 1150 feet may be either deepened or re-started.

Six completions for the week included three gas wells, two oil wells and one failure. A 16 million foot gas well on Taggart Brother's Johnson 10, 14n-9w-4, and a six million foot- gasser on Michigan Exploration's Youmans 1, 13n-7w-34, both Mecosta County, were the outstanding developments due to their importance in building up gas reserves and further establishing potentialities of the west gas area.

Completions:

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Sun Oil Co., Miller 7, 13n-1w, nw ne sw-16	65	3415
ISABELLA COUNTY—		
Wittmer Oil Co., Haskins 1, 15n-3w, ne sw sw-30	*	3735
OGEMAW COUNTY—		
Joe Molloy, Bosom 1, 22n-2e, nw nw se-19	12	2725
MONTCALM COUNTY—		
Rex Oil Co.'s Keeler-Church 1, 12n-5w, se nw-17	¶1/3	1220
MECOSTA COUNTY—		
Taggart Bros., Johnson 10, 14n-9w, se nw-4	¶16	1349
Michigan Exploration, Youmans 1, 13n-7w, se se-34	¶6	1335

*Failures; †Junked; ¶Million cu. ft. gas.

Will Enlarge Pipe Line Terminal

Mt. Pleasant, Mich.—Completion of a 30-tank car loading rack at Pure Transportation Company's pipe line terminal at Bay City, Mich., will increase the loading facilities to 60,000 barrels daily, Dave E. Beach, general manager announced.

The Great Lakes Shipping season closed on December 1 and during the winter months crude shipments will be made by railroad tank cars. During the navigation season, Pure shipped an average of 36 lake oil tankers per month. The tankers averaged 16,000 barrels per load.

Mt. Pleasant, Mich.—Del Fortney, partner of the Strange and Fortney Oil Company, producing, has announced intentions to construct a crude oil refinery in Michigan. The site probably will be Bay City, Mich. Others will be associated in the refinery project besides himself, Fortney said.

Eastern Fields Completions

KENTUCKY

Company, Well and Location	Init. Prod. Bbls.	Depth
OHIO COUNTY—		
J. C. Miller & Co., M. B. Smith 2	80	....
The Petroleum Co., Tom Mills 1	*	....
Snowden-McSweeney Co., H. J. O'Dell 10	85	....
J. R. Hughes & Co., J. W. Peckenpaugh 1	*	....
Carpenter, Lile & Co., Chas. Mason 1	*	....
F. Cox & Co., Edward Smith 2	15	....
John Lile & Co., Chas. Mason 1	*	....
Snowden-McSweeney Co., F. E. Midkiff 2	20	....
Cumberland Petroleum Co., Rolla Richards 15	35	....
B. E. Calvert & Co., B. Smith 2	*	....
HANCOCK COUNTY—		
The Chester Oil Co., Ida Fuqua 3	10	....
Humes & Steel, F. H. Bailey 5	*	....

CENTRAL OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ATHENS COUNTY—		
Ohio Fuel Gas Co., Black Diamond Coal 14	*	1657
BELMONT COUNTY—		
Peters & Patterson, Julia Hudox 1	¶	....
COSHOCTON COUNTY—		
Hultz-Hulse, Inc., F. G. Allen 4	65	3281
FAIRFIELD COUNTY—		
City Natural Gas Works, J. A. Friedly 1	¶	2074
GUERNSEY COUNTY—		
Henderson Oil & Gas Co., A. J. Foraker 1	¶	....
Ohio Fuel Gas Co., Clark V. Foraker 2	¶	1524
Homer A. Law 1	¶	1581
H. P. Muhlback & Son, Thomas Stewart 6	¶	1402
TUSCARAWAS COUNTY—		
Columbia Carbon Co., R. H. Williamson 1	¶	5101
KNOX COUNTY—		
Upham Gas Co., David E. Keck 2	*	....
Ida M. Dowds 1	*	....
MEIGS COUNTY—		
Ohio Fuel Gas Co., Guy Wilson 1	¶	816
Arthur Lovett 1	¶	2087
Harrisonville Gas Co., Elizabeth McCumber 1	*	994
O. D. Jones, W. E. McDade 2	¶	2040
Mary A. Knowles 1	¶	1942
Meigs Development Co., Elizabeth Graham 1	¶	720
Hall Gas Co., Edward Molden 1	¶	722
HOLMES COUNTY—		
Ohio Fuel Gas Co., Emanuel Weaver 1	¶	4057
Chas. McFarland 1	*	3425
STARK COUNTY—		
Ohio Fuel Gas Co., A. J. Stoner 2	¶	4347
MEDINA COUNTY—		
Curtis & Eaken, Broadsword 11	2	402
Dillon & McFrederick, Jas. R. Mays 1	*	....
WAYNE COUNTY—		
Harmon & George, H. Hagerman 4	*	....

SOUTHEASTERN OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
HOCKING COUNTY—		
George Bailey, Kelch Bros. 4	¶	2475
MONROE COUNTY—		
Mike Stafford, L. E. Stoffel 2	3	1292
A. N. Robinson & Co., A. N. Robinson 4	*	....
NOBLE COUNTY—		
G. M. Harper & Co., John Shafer 2	*	708
Local Company, Judson Melhone 4	¶	1354
Foraker & Walters, Brinkmeier 2	5	....
PERRY COUNTY—		
Hopewell O&G Co., M. Emmert 4	¶	3057
WASHINGTON COUNTY—		
J. W. Mendehall, E. W. Kesselring 1	2	918
Frank Hayes, William Yost 5	¶	1530
Helen J. Burt, Burt 12	2	662
M. A. Martin & Co., John Work 1	2	642
W. S. Harris, Zanesville Canal 1	2	997
Frank Hayes & Co., Yost 1	*	1590
Herald-Schramm, J. H. Ward 16	3	1200
Francis R. Meyer, Ada May Hall 17	4	740
Frances P. Meyer, John Bram 9	12	989
McVey Bros. & Co., W. D. Webber 1	*	1650

WEST VIRGINIA

Company, Well and Location	Init. Prod. Bbls.	Depth
CABELL COUNTY—		
C. P. Rowsey, M. J. Johnson 1	¶	....
CALHOUN COUNTY—		
F. F. McIntosh, Settle 1	¶	1931
Jarvis & Ayres, R. Robinson 1	¶	2353
F. F McIntosh, E. L. Hays 1	*	1925
RITCHIE COUNTY—		
W. H. Bickle, Hardman 1	¶	1776
M. Edwards & Co., Freeman 1	*	2175
Dunmar Oil & Gas Co., P. D. Starr 1	*	2471
Swingle Bros., C. Vincent 1	*	1905
GILMER COUNTY—		
South Penn Oil Co., Flora S. Bennett 3	10	2069
McCall Drilling Co., M. S. Cawthorn 2	¶	1540
Dotson & Co., Bud Stump 1	¶	1869
LINCOLN COUNTY—		
Hamlin Drilling Co., V. Adkins 1	¶	2257
WETZEL COUNTY—		
Jason Wade & Co., Joseph Shuler 1	¶	2124

PENNSYLVANIA

Company, Well and Location	Init. Prod. Bbls.	Depth
BEAVER COUNTY—		
Beeler & McElroy, McKinney 1	*	....
GREENE COUNTY—		
Union O&G Co., Hughes 1	10	....
Guy Patterson, Ross 3	¶	....
WASHINGTON COUNTY—		
E. H. & J. B. Tague, E. H. Grim 1	10	864

*Failures; †Junked; ¶Million cu. ft. gas.

Bulletins

National Supply Company, Toledo, Ohio, has ready for distribution bulletins No. 54-A and No. 57. The first is a supplement to advance descriptive bulletin No. 54 and gives additional information on Ideal Unit Type draw works. The second describes the National Sucker rod line weight.

Drilling Reports on Important Wildcats

COLORADO

ARCHULETA COUNTY—Oil City Petroleum Co.'s Garnett 2-X, Lot 3, ne sw 25-33n-52e, sd for dr line in hard shale at 820 ft.

BOULDER COUNTY—L. R. Steele's Coles 1, nw nw ne 33-1n-70w, sd at 3520 ft, will be saved as commercial gas well, making 250,000 cu ft of gas from 1855 ft to 2535 ft in black sand and shale.

GRAND COUNTY—Colorado Oil Refining Co.'s Linke 1, ne sw sw 13-1n-77w, sd for winter at 1820 ft.

PARK COUNTY — South Park Oil Co.'s State 1, se se sw 16-11s-17w, dr in Pierre shale at 630 ft.

NEW MEXICO

CHAVES COUNTY — Roswell Insurance Surety Co.'s Franks 1, ne se 30-11s-25e, Pomeroy anticline, retreated with 600 gals of acid but did not flow and is preparing to swab, td 996 ft.

ROOSEVELT COUNTY—Claudell Development Co.'s Wilmes 1, sw se 21-2s-30e, dr plug after cementing 15½-in csg at 400 ft, td 1380 ft in salt.

SAN JUAN COUNTY — Continental Oil Co.'s Rattlesnake 39, nw se 12-29n-19w, completed for 60 bbls at 797 ft. Same company's Rattlesnake 40, ne ne 2-29n-19w, lcn.

WYOMING

ALBANY COUNTY—California Co.'s Holst 1, ne se se 13-77n-77w, Quealy Dome structure, running tubing to test, td 3175 ft with 9⅝-in csg cemented at 3140 ft.

CARBON COUNTY—Earl W. Reader, Inc.'s Union Pacific 1, csw sw 19-20n-83w, Overland Dome structure, dr at 5840 ft. Same company's Whitford 1, sw se se 24-20n-84w, dr at 1700 ft (corrected depth). Ohio Oil Co. and California Co.'s Wm. Kyle 1, ne se ne 26-21n-79w, preparing to cement 14½-in csg at 400 ft. Ohio Oil Co.'s Sid Morris 1, cnw se 6-20n-77w, Diamond Dome structure, dr in Mowry shale at 5000 ft. Argo Oil Co.'s Frank Johnston-Union Pacific 1, se 5-24n-87w, O' Brien Springs structure, dr at 2620 ft.

CONVERSE COUNTY—Otto Olsen et al's Carey 1, nw 6-32n-74w, Box Elder Basin structure, ru to resume dr from 510 ft, has been shut down at this depth for 3 years.

FREMONT COUNTY — Mid-American Oil Co.'s Government 2, cne sw 14-28n-92w, Sheep Creek structure, straightening crooked hole at 60 ft.

HOT SPRINGS COUNTY—California Exploration Co.'s Government 1, ne se ne 12-44n-97w, Waugh Dome, dr at 3515 ft.

CALIFORNIA

KERN COUNTY

BLACKWELL'S CORNER—Amerada Pet. Corp.'s Beer 1, 17-26-16, dr brown shale 3572 ft.

BUENA VISTA LAKE—Shell Oil Co.'s B. V. A. 1, 9-32-25, bldg dk.

CALIENTE—Signal Oil & Gas Co.'s S. P. Land Co. 1, 31-29-30, rig (was Woodward Oil Co).

COMANCHE—Comanche Oil Co.'s No. 1, 15-32-29, sd 4325 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 1441 ft.

DELANO—Cimarron Oil Corp.'s Quinn 1, 14-25-27, spud Nov. 29 (was Ammaron Oil Corp.)

DEVIL'S DEN—Richfield Oil Co.'s Alferitz 2, 14-25-18, rur.

NEAR EDISON—Caro Vel Pet. Corp.'s Edison 1, 19-30-30, plug 1775 ft, td 1910 ft. Lee Oil Co.'s Edison-Seale 5-1, 5-30-29, tested 250 bbls, 13.4 gravity oil, 40 per cent cut, td 4020 ft, to make further tests. The Texas Co.'s Seale 4-25, 4-30-29, dr sand and shale 2260 ft.

GOULD HILLS — The Texas Co.'s Jared How 1, 29-29-21, spud Nov. 30.

GREEN FIELD—Sea Cliff Oil Co.'s Houghton 1, 7-31-28, rur.

KERNELL — Standard Oil Co.'s Guarantee Title 1, 1-25-23, lcn.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions).*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standing rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

LOST HILLS—Standard Oil Co.'s United 1, 2-26-20, lcn.

NEAR MOUNTAIN VIEW — Hogan Pet. Co.'s Symons 1, 4-31-29, dr shale 2450 ft.

SEMITROPIC—Standard Oil Co.'s Hill 1, 8-27-23, rigged.

SO. BUTTONWILLOW—101 Oil Co.'s No. 1, 5-30-24, rigged.

SOUTH DOME — Continental Oil Co.'s Tatchell 1, 7-25-20, lcn.

TEMBLOR HILLS—Robt. Foster's No. 1, 2-32-22, sd 2025 ft.

WHEELER RIDGE—Badger Oil Co.'s El Tejon 1, 31-11-19, td 6229 ft, plug 4100 ft, sd.

WEEDPATCH — Associated Oil Co.'s Di Giorgio 1, 3-31-29, dr green shale 4378 ft.

KINGS COUNTY

DUDLEY RIDGE—Dudley Ridge Oil Co.'s No. 1, 24-23-20, rig.

PYRAMID HILLS — General Pet. Corp.'s Martin 1, 20-24-18, rig.

TULARE LAKE—Commonwealth Cons. Gas Co.'s No. 2, 21-22-20, rur.

FRESNO COUNTY

CANTUA CREEK — Western Gulf Oil Co.'s S. P. Land 2, 11-17-15, dr sand and shale 6995 ft.

DOS PALOS—Berkman Oil Co.'s Ora Lime Farms 1, 12-12-11, sd 6006 ft. Russ Oil Synd.'s No. 1, 28-12-11, sd 4370 ft.

NEAR COALINGA—The Texas Co.'s Circle Oil Co. 1, 35-20-14, dr black shale 725 ft.

HUMBOLDT COUNTY

TABLE BLUFF — The Texas Co.'s T. B. Unit 1, 1-3n-2w, dr 150 ft.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, which tested 15,000,000 cu ft gas last week with plug at 8030 ft, killed to plug at shoe 9-in csg 7765 ft and perforate 9-in to test upper showings.

SACRAMENTO COUNTY

CLAY STATION — Great American Pet. Co.'s Howard 1, 25-2-8, dr shale 2409 ft.

SAN JOAQUIN COUNTY

TRACY—Milham Explor. Co.'s Moy 2, 24-3-4, dr sand and shale 3580 ft.

TEHAMA COUNTY

CORNING — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, dr hard shale 2005 ft.

TULARE COUNTY

ALPAUGH AREA—Mastodon Oil Co.'s No. 1, 27-24-23, rigged and idle.

SANTA BARBARA COUNTY

GOLETA—Shell Oil Co.'s Bishop 1, 20-4-28, dr sand and shale 5292 ft.

LOMPOC—Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 2975 ft.

SISQUOC — Royalties Service Corp.'s Sisquoc 1, 35-9-32, sd 4500 ft.

NEAR SANTA MARIA — Union Oil Co.'s Enos 1, 23-10-34, dr shale and sand 2605 ft.

SUMMERLAND—Ortega Oil Co.'s Williams 1, 16-4-26, cemented 4¾-in csg 4040 ft, dr out, ran 2½-in tubing, swabbed in for 500 bbls fresh water and 300,000 ft gas and trace high gravity oil, killed to locate water.

SAN LUIS OBISPO COUNTY

SEE CANYON—Farrell Pet. Co.'s No. 1, 18-31-12, dr 1380 ft.

VENTURA COUNTY

BARDSDALE COUNTY — Daniel Fisher's Elkins 1, 5-3-19, co td 762 ft.

HOPPER CANYON — Oil Ridge Oil Co.'s Moran 3, 1-4-19, td 1399 ft, bailed a little heavy oil.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, fsg 7370 ft.

OJAI—Continental Oil Co.'s Pirie 1, 12-4-23, dr cable tools 788 ft. Rancho Oils' Rancho Santa Ana 1, 18-4-23, td 2525 ft, set packer 1500 ft, recovered mud, no oil or water.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, 4-3-24, td 7615 ft, redr below 4000 ft.

SANTA SUSANA—E. N. Dakes' No. 1, 6-2-17, sd 300 ft.

SHIELLS CANYON—The Texas Co.'s Shiells 128, 4-3-19, dr sand and shale 5400 ft.

SOUTHERN CALIFORNIA

ATHENS AREA—F. A. Speik's Johnston 1, 2-3-14, rig.

BREA CANYON—Pressel-Perry-Tull's Baird 1, 30-2-9, dr hard sand 4073 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, sd 2698 ft.

EAST RICHFIELD—Midrich Drilling Co.'s Vejar 1, 26-3-9, circulating, td 4056 ft.

HERMOSA BEACH — Corniel Oil Corp.'s No. 1, 31-3-14, sd 3900 ft. Aron H. Hover's Bryant 1, 31-3-14, pulled tubing, recemented 8⅝-in csg 3210 ft, td 4200 ft.

HUNTINGTON BEACH, on Tidelands—Black Eagle Oil Co.'s No. 1-B, permit 194, 32-5-11, cemented 5-in csg 4265 ft, formation tester showed no water, oil sand in streaks near bottom, td 4702 ft.

LOS NIETOS—Rex Anglin Dev. Co.'s Fallis 1, 30-2-11, sd 1210 ft.

MANHATTAN BEACH — Staple Oil Co.'s No. 1, 24-3-15, dr brown shale, so 5322 ft.

NEWPORT—Piatt & Collins' No. 1, 14-6-10, sd 2574 ft.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, sd 6750 ft.

PLACENTIA—Placentia Dev. Co.'s Verde 1, 35-3-9, td 4250 ft, redr 3168 ft.

PUENTE—N. O. Shively's Rowland 1, 23-2-10, dr shale and shell 1910 ft.

SAUGUS — International Oil Developers' Powell 1, 34-5-16, fsh 3365 ft.

SURF—B. & B. Oil Co.'s B. B. 1, 19-6-10, dr shale and sand 2040 ft.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco B-1, 18-2-8, sd 3167 ft; Gapco D-1, sd 305 ft, to set surface casing.

OKLAHOMA

ATOKA COUNTY—Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, sd 3709 ft. T. C. Ramler et al's William Roberts 1, sw se sw 6-2s-12e, sd 1175 ft.

BECKHAM COUNTY—Fred Coogan et al's Shelton 1, sw sw sw 33-10n-25w, ru and sd.

BRYAN COUNTY — Hankin & Williams'

Slagg 1, se sw ne 20-6s-13e, ur 8-in csg 492-503 ft.

CADDO COUNTY—H. W. Lee et al's Stacey Ferrel 1, sw ne ne 3-6n-13w, ur 12-in csg 740 ft. Denver P. & R. Co.'s Noe 1, nw sw sw 34-10n-10w, fsg dr pipe 4000 ft.

CARTER COUNTY — Daphfine Oil Co.'s Hooks 1, se nw nw se 5-1s-2w, dr plugs, hfw 1354 ft, recementing pipe. C. P. Williams et al's Singleterry 1, se sw nw 25-2s-3e, dr 611 ft.

CLEVELAND COUNTY — Mid-Continent Petroleum Corp. et al's Collett 1, ne sw 35-10n-1w, dr 6870 ft.

COAL COUNTY—J. D. Peetty Oil Co.'s McMillan 1, sw nw ne 16-1s-8e, so 1034 ft, sd. Moore & Deaner's Edwards 1, nw ne se 27-2n-8e, td 7336 ft, ran 75 sacks cement, to test. W. A. Delaney et al's H. Diamond 1, nw nw se 5-1s-8e, lcn.

COMANCHE COUNTY — F. F. Stevens' Green 1, se sw 2-1n-13w, fsg for tools 1165 ft.

GARVIN COUNTY — National Producing Co.'s Littrel 1, ne ne ne 31-2n-3w, set 8-in csg 830 ft, and sd.

GRADY COUNTY—Carter Oil Co. & Magnolia Pet. Co.'s Harrison 1, cnw nw 28-3n-5w, dr 7955 ft.

HARPER COUNTY — Sinclair Prairie Oil Co.'s Neff 1, nw se 21-26n-24w, td 7378 ft, D&A.

HUGHES COUNTY—Freeman et al's Kite 1-A, nw nw ne 8-6n-10e, sd 154 ft. Evans & Morris' Day 1, nw sw 30-6n-10e, sd 550 ft.

JACKSON COUNTY—Gypsy Oil Co.'s Kelly 1-A (twin) ne ne ne 10-1n-20w, pb to 1424 ft and si. Gypsy Oil Co.'s Kelly 1-B (twin), sw sw ne 10-1n-20w, sd 1424 ft for tankage, est 50 bbls oil. Ben Russell's Butler 1, nw ne 30-1n-22w, dr 5160 ft.

JEFFERSON COUNTY — H. F. Young's Bouldin 1, se sw sw 1-7s-4w, dr 1198 ft.

JOHNSON COUNTY—Gled Oil Co.'s Layton Reams 1, sw se ne 26-2s-8e, td 2439 ft, D&A.

KAY COUNTY—Helmerich-Payne's Crouse 1, cne sw 29-25n-1w, spd and sd. Bay Oil Co.'s Hudson 1, sw ne 14-28n-3e, hfw 1910 ft, dr 1950 ft. Carter Oil Co.'s Fowler 1, cne 12-27n-1e, 5 bailers water per hr 1745-70 ft, dr 1920 ft. S. R. McCorkle et al's Hermes 1, sw nw 6-26n-4e, mir and mim. Harris-Haun's W. A. Schuessler 1, cnw sw 3-28n-2e, br. Lancer Oil Corp.'s Hugo Milde 1, se nw nw 22-28n-5e, lcn.

LINCOLN COUNTY—Tom Bennett et al's Bolby 1, cse sw 27-12n-2e, td 5081 ft, sd for csg. Derrickson & Reserve Pet.'s Law 1, se sw ne 25-14n-3e, rog. M. Murray & Ralph Rittenhouse's 1, nw ne 25-14n-6e, td 4302 ft, to abn. R. L. Kemp & Comail Oil Co.'s Dooley 1, ne sw 20-17n-6e, dr 1540 ft. Sinclair Prairie Oil Co. et al's Dunbar 1, sw ne 25-15n-4w, dr 4130 ft. Helmerich-Payne et al's Sturgis 1, se nw 1-15n-2w, dr water well. Sinclair Prairie Oil Co.'s Boland 1, sw sw sw 25-12n-3e, (owdd), dr 5504 ft, hfw. Charles Balph et al's Young 1, cn½ nw nw 23-15n-5e, rog.

LOGAN COUNTY—Gypsy Oil Co. & Sinclair Prairie Oil Co.'s Manning 1, cnw nw 3-17n-4w, td 6416 ft, comp. Sinclair Prairie Oil Co.'s School Land 1, se se se 36-17n-1w, dr 2925 ft.

McCURTAIN COUNTY — Stamps et al's Harris 1-A, sw nw sw 14-9s-25e, sg 1050 ft, td 2848 ft, D&A.

NOBLE COUNTY—Marathon Oil Co.'s Gilbert 1, ne ne ne 24-22n-2e, dr 2210 ft.

OKFUSKEE COUNTY — Delton Oil Co.'s Fixico 1-A, se se se 7-11n-8e, recementing.

OKLAHOMA COUNTY — Sinclair Prairie Oil Co.'s Hoyt 1, nw sw ne 5-14n-3e, fsg 4530 ft. R. Carl Larkin's Brobine 1, nw ne 33-13n-3w, rog. J. C. Shaffer et al's Bullard 1, sw sw sw 13-13n-2w, set 10-in csg 461 ft, td 467 ft, wocs.

OSAGE COUNTY — Peters Petroleum & Norbla Oil Co.'s 1, sw sw sw 15-25n-5e, sd 3040 ft, may deepen.

PITTSBURG COUNTY—McAllister Petroleum Co.'s Chunn 1, se nw 29-4n-14e, set 12-in csg 420 ft, td 423 ft, wocs. P. H. Gray et al's Lee 1, nw se 12-5n-13e, dr 350 ft.

PONTOTOC COUNTY—Gillette & Kroeger's Duver 1, ne se 1-1n-6e, sd 784 ft. J. D. Sledge & Jack Lynch's Thompson 1-A (twin) sw ne sw 1-1n-7e, shot 40 qts 4096-4108 ft, swab 36 bbls oil, shot 100 qts 3883-3910 ft, 146 bbls oil, hole bridged 3875 ft, swab 38 bbls oil 4 hrs, lowered bridge to 3940 ft, 1200 ft oih, to acidize. Southern Oil Corp.'s Ladd 1, cnw nw 27-3n-7e, dr 850 ft. Gillette & Kroeger's Robbins 1, ne se 31-1n-6e, rog. E. M. Blanchard's Crabtree 1, ne se ne 27-2n-6e, td 2920 ft, D&A. Dixie Oil Co.'s Graham 1, sw se sw 13-1n-2e, rig and sd. Paul R. Robbs' Vittetoe 1, cne se 11-5s-4e, recovered core bbl and sd.

POTTAWATOMIE COUNTY — Blackgold Petroleum Co.'s Bizzell 1, cne nw 15-7n-3e, dr 3490 ft.

SEMINOLE COUNTY—Moran et al's Brinlee 1, sw ne 27-6n-5e, pb to 2300 ft and ripped 2260-2280 ft, hfw, D&A. Verser & Clay's Thomas 1, ne se nw 1-6n-6e, td 2124 ft, cemented off core. Ray Dorris & J. T. Hall's Dorris 1, se sw 31-10n-7e, rust. Wofford Drilling Co.'s Abbott 1, ne ne ne 33-8n-7e, rig. Gypsy Oil Co.'s Grayson 1, sw nw 13-6n-5e, rig. Wofford Drilling Co. et al's Thomas 1, nw se 8-6n-7e, cellar and pits. Atlantic Oil Co.'s Thompson 1-A, sw se se 15-11n-8e, lcn.

STEPHENS COUNTY—Carter Oil Co.'s T. H. McCasland 1, cnw nw sw 22-1s-4w, td 5334 ft. abd. Wm. Angle's Johnson 1, ne se 17-1n-8w, recovered swab and recemented 8-in coring, wocs.

TEXAS COUNTY—Ben F. Ash et al's Guyman Twnst. 1, cne se 30-3n-15e, fsg dr pipe 2420 ft.

KANSAS

BARBER COUNTY—Lario et al's Whelan 1, cnw 32-31s-11w, pb to 4382 ft and pump 100 bbls oil and 100 bbls water.

BARTON COUNTY — Atlantic Oil Co.'s Vaniman 1, csw ne 15-20s-12w, ur 8-in csg 4565 ft. Murphin & Davis' Lanterman 1, nw se 15-19s-11w, set 8-in csg 2650 ft, sg 3035 ft, so&g 3055 ft, est ½ million gas 3070 ft, dr 3100 ft. Treleaven & Brimm et al's Haas 1, sw sw sw 30-18s-15w, dr 2020 ft. Darby Petroleum Co.'s Jarus 1, nw se ne 16-16s-12w, dr 2190 ft. Lario et al's Nuss 1, nw sw sw 11-16s-14w, lcn. D. I. Hall et al's Arnold 1, se sw 19-18s-15w, rig.

BUTLER COUNTY—Gaines et al's McKinley 1-A, ne sw 29-29s-4e, td 1950 ft, 150 ft fluid, no test.

CLAY COUNTY—Seidel Brothers' Younker 1, cs½ se nw 21-9s-4e, ur 8-in csg 1391 ft.

COWLEY COUNTY—Lassen's Ferguson 1, se nw 21-30s-8e, dr 1700 ft. Ben Gralapp's KuKuk 1, sw nw 6-33s-4e, set 12-in csg 1140 ft, dr 1360 ft.

DICKINSON COUNTY — Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, co 2500 ft.

ELLSWORTH COUNTY—Ainsworth Brothers' Charavat 1, ne nw ne 33-15s-10w, td 3323 ft, hfw, D&A.

GREENWOOD COUNTY—Texas Co.'s Edwards 1, ne nw ne 32-24s-12e, fsg 1100 ft. Kite et al's Jamison 1, sw se ne 30-26s-13e, dr 525 ft.

HARVEY COUNTY—Imo Oil & Gas Co.'s Sperling 1, se ne ne 23-22s-2w, set 8-in csg 2414 ft, hfw 2440-2450 ft, ur 8-in csg 2470 ft. Connell et al's Roth 1, sw sw sw 16-22s-2w, spd and sd. Cameron, Derby & Trees' Brainard 1, sw se nw 19-24s-2e, mim.

KINGMAN COUNTY—Sam Jarvis et al's Morrisse 1, cse ne 23-30s-10w, rig.

McPHERSON COUNTY—Roth, Farrout et al's Bestwater 1, se sw se 23-20s-1w, set 8-in csg 2739 ft, ur 8-in csg 2900 ft. C. W. Lamer et al's Rolander 1, ne ne nw 8-18s-2w, hfw 2485 ft, ur 8-in csg 2515 ft. Lario Oil & Gas Co.'s Schrag 1, nw se sw 22-19s-4w, fsg 725 ft. Stafford et al's Krehbiel 1, nw se 27-21s-3w, (owdd) co 2080 ft.

NESS COUNTY—Texas Co. & Gypsy Oil Co.'s Goodman 1, csw sw 21-19s-23w, dr 2380 ft.

OSBORNE COUNTY—Carmen & Hershey's Fitz 1, cne ne 9-10s-14w, dr 3427 ft.

PRATT COUNTY—Atlantic Oil Co.'s Prentice 1, cse nw 18-28s-14w, lcn.

RENO COUNTY — F. H. Unrhu's Joseph 1-A, se sw nw 18-25s-4e, rig. Privett Drilling Co.'s Crotts 1, ne nw ne 27-26s-10w (owdd), sd 2904 ft. McBride's Popp 1, sw sw ne 32-24s-4w, set 6-in csg 3787 ft, dr 3820 ft. Lario Oil & Gas Co. & Reserve Development Co.'s Shepherd 1, sw nw 18-22s-5w, dr 2405 ft. Johnson & Carey et al's Dyck 1, se ne se 35-22s-5w, mim.

RICE COUNTY—Langston et al's Markle 1, ne sw 1-20s-9w, sd 2906 ft. Yingling et al's Maupin 1, nw sw sw 1-18s-8w, set 6-in csg 3026 ft, dr 3200 ft. Gypsy Oil Co.'s Dotson 1, sw nw 25-20s-10w, set 8-in csg 120 ft, wocs.

ROOKS COUNTY—Stearns-Streeter et al's Hoskins 1, se sw se 34-9s-16w, dr 1315 ft.

RUSH COUNTY—Corbett & Barbour et al's Schmidt 1, sw sw se 19-27s-16w, set 6-in csg 2495 ft, hfw and sd. Twin Drilling Co. et al's Rolfe 1, sw nw sw 13-17s-19w, 5-in liner 3201 ft, td 3205 ft, hfw, no test. Flynn et al's Hartman 1, sw se nw 4-18s-16w, rig. Lario Oil & Gas Co. & Phillips' Benbow 1, nw ne ne 12-17s-19w, ru.

RUSSELL COUNTY—Tom Palmer's Herbel 1, nw sw 4-12s-11w, set 6-in csg 3056 ft, dr 3315 ft. Lario Oil & Gas Co .et al's Moore 1, se nw 34-13s-12w, cellar. J. Brouk & R. D. Bailey's Kluesner 1, nw se 34-15s-12w, rog. Hartman & Blair's Gurney 1, se nw 23-14s-14w, br. Wolf Creek et al's Donovan 1, sw sw se 10-15s-15w, rog.

SALINE COUNTY—Dieter et al's Herrington 1, ne nw se 3-13s-1w, sd 1785 ft.

SEDGWICK COUNTY—Allison & Fitzwilliams' Struthers 1, ne sw sw 34-28s-2w, dr 2986 ft. Syndicate Oil & Gas Co. et al's Ratzlaff 1, ne nw nw 30-26s-2e, td 2978 ft, 5 bbls oil 2 hrs, will run 6-in csg 2950 ft. R. D. Lauck et al's F. A. Roy 1, ne ne sw 24-29s-1w, td 3858 ft, D&A. Leo Keller et al's Russell 1, sw sw nw 16-29s-2e, cellar. Aladdin Petroleum et al's D. Lauck 1, se ne nw 21-28s-2e, rig. Magnolia Petroleum Co.'s Bartholomew 1, se sw 30-27s-4w, lcn.

SHAWNEE COUNTY—Jim Edwards' Deitrich 1, cnw se 21-14s-15e, sd 275 ft.

STAFFORD COUNTY—Atlantic Oil Co. & Phillips Petroleum Co.'s Guthrie 1, cnw nw 15-25s-11w, dr 485 ft.

SUMNER COUNTY—Foraker et al's Hiett 1, se sw ne 34-34s-4w, sd 625 ft. Tom Palmer's Wentworth 1, nw ne 9-35s-2e, rig.

TREGO COUNTY — Marathon Oil Co.'s Kline 1, sw se 19-14s-24w, dr 4702 ft.

EAST TEXAS

ANDERSON COUNTY — Gulf Prod. Co.'s M. A. Davey-T. Royall 1 (174-ac), nwc of M. Rogers sur, Camp Hill area, elev 572 ft, Pecan chalk 3890-4223 ft, Austin chalk 4879-5058 ft, tested good sg 5045-66 ft in sub-Clarksville, top of Woodbine sand 5176 ft, tested dry at 5188 ft, sd for 3rd dst at 5217-21 ft, with show gas, J. W. Luttes et al's C. M. McKee 1 (100-ac), Walter F. Pool sur, 3 mi se of Frankston, dk. Trinity State Oil Co.'s Trinity River 1, Cayuga area, elev 254 ft, dr 3610 ft.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (319-ac), Jessie Milam sur, elev 272 ft, rig.

CASS COUNTY—A. D. King, Tr. and E. S. White's G. W. Allday 1 (40-ac), R. F. Whittaker sur, 4 mi ne of Linden, dk. H. F. Wilcox et al's S. A. Orr 1 (316-ac), G. W. Morris sur, elev 381 ft, sd 3887 ft. Broderick & Calvert, Inc's I. J. Cagle 1-A (154-ac), H. Cunningham sur, sp.

CHEROKEE COUNTY—J. B. Daniels Oil & Royalty Co's Southern Pine Lumber Co. 1 Weches area, rig. Jacksonville O&G Corp's H. D. Henderson 1 (40-ac), J. Pineda sur, elev 409 ft, sd 693 ft. Killough et al's J. S. Strickland 1 (40-ac), Urian Moore sur, 7 mi nw of Jacksonville, elev 433 ft, sd 2565 ft. Leetex Oil Co.-Devonian Oil Co.'s J. J. Tullis 1 (157½-ac), W. M. Johnson sur, No. 162, elev 469 ft, Pecan chalk 3937-4422 ft, top Austin chalk 5071 ft, coring 5190 ft. Rowan-Nichols Oil Co.-Simms Oil Co.'s C. V. Gilbreath 1 (60-ac), H. M. Brewer sur, Reklaw area, lcn. E. M. Thomason & Co., Inc.'s W. J. Addis 1 (80-ac), Jessie T. Jones sur, elev 471 ft, sd 2150 ft.

ELLIS COUNTY — Bodie D. Fenley and Beckner's Lon Coker 1 (30-ac), R. de la Pena 11 League Grant, Lot 102, sd 510 ft.

FREESTONE COUNTY — Walter M. Burress et al's J. B. Orand 1, (50-ac), W. M. C. Jones sur, 1¾ mi n of Fairfield, sd 1000 ft. J. P. Haley & Chas. F. W. Young's G. Cochrum 1 (380-ac), D. Bullock sur, 1 mi se of Luna, lcn.

GREGG COUNTY—O. T. Clark et al's T. G. Williams 1, David Hill sur, 3 mi ne of Longview, dr 1175 ft.

HENDERSON COUNTY—J. C. Crosby and Culp's M. T. Dodd 1 (160-ac), Geo. Aldrich sur, 4 mi e of Malakoff, elev 376 ft, Pecan

chalk 2390-2504 ft; Austin chalk 3456-3610 ft; sd 4125 ft. Great State Oil Corp. (Dick Andrade & R. S. Bond's) R. Sid Ansley 1, N. B. Thompson sur, elev 289 ft, top Austin chalk 2608 ft, jkd and abd 2650 ft.

HOPKINS COUNTY—D. A. Hale et al's L. M. Hall 1 (70-ac), A. Caro sur, A-143, elev 506 ft, sd 1492 ft.

HUNT COUNTY—D. T. Cauble & Mrs. J. C. Thompson's Y. B. Reed 1 (220-ac), F. Thweatt & C. B. Payne sur, A-1054, 3 mi se of Greenville, dk. Dilworth Hager-J. S. Abercrombie Co. & Harrison Oil Co.'s W. A. Morrison 1, Abie Lawson sur, A-611, 5½ mi sw of Greenville, top of Austin chalk 1269 ft, dr 1720 ft. Julian C. Hall et al's A. B. Parrish 1 (100-ac), (S) Nancy Danley sur, rog. L. G. Priest et al's A. Barnett 1 (212-ac), J. C. Hamer sur, A-417, elev 607 ft, Pecan chalk 1452-1529 ft; Austin chalk 1882-2488 ft; top Woodbine section 2955 ft, so&g, coring 3285 ft. J. E. Winans et al's J. R. Phillips 1 (53 1/3-ac), W. L. James sur, elev 558 ft, sp and sd.

KAUFMAN COUNTY—L. P. Kean et al's J. B. Hunter 1, R. Sowell sur, top Austin chalk 1785 ft, sd 1810 ft.

LIMESTONE COUNTY—David J. Crawford et al's Vol DeLong 1 (59.3-ac), Pedro Varella sur, 2½ mi n of Thelma, sd 1650 ft. Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, dk. T. S. Watson and W. C. Moore's T. M. Wilson 1 (236 1/3-ac), Alex W. Patton sur, 1½ mi se of Prairie Hill, dr 310 ft. V. V. Waite et al's Cannon Barron 1 (320-ac), W. G. McKenzie sur, 4 mi n of Thornton, lcn.

MORRIS COUNTY—Fleetborn Oil Corp.'s Geo. Hammond 1, Thomas Y. Burford sur, elev 371 ft; Pecan chalk 1980-2545 ft; top Austin chalk 3080 ft, dr 3715 ft. C. M. "Dad" Joiner et al's Reese 1, T. C. Ry. sur, sd 1450 ft.

NAVARRO COUNTY—Bennett Bros. et al's T. E. Stewart 1 (83-ac), W. R. Bowen sur, sd 1185 ft. R. B. Godding et al's W. Kent 1 (48½-ac), C. B. Emmons sur, sd 1545 ft. W. J. Keeling Estate et al's J. F. Rushing 1 (84-ac), Henry Ford sur, 6 mi w of Currie, elev 530 ft; Austin chalk 2155-2395 ft; top Woodbine sand 2858 ft, sd 2880 ft. L. N. McCulloch et al's Berry Bros. 1 (35-ac), W. W. Moss sur, sd 625 ft.

RAINS COUNTY—Bryant & Speer's Mrs. S. A. Jones 1 (67-ac), J. Compton sur, top of Nacatoch sand 1660 ft, dry and abn 1800 ft. J. K. Wadley & J. W. Halsell's T. F. Jones 1 (22-ac), BBB&C Ry. sur, elev 425 ft, Pecan chalk 2503-2700 ft; top Austin chalk 3970 ft; sd 4630 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Bowen-Grant 1 (528-ac), P. D. Midkiff sur, 6½ mi nw of Clarksville, lcn. J. E. Dinger et al's W. T. Norris 1 (400-ac), Joseph Guest sur, 1 mi s of Detroit, dk.

ROBERTSON COUNTY — Manness et al's Sackville 1 (1392-ac), M. M. Viesca sur, dk.

RUSK COUNTY—Fair & Thompson, Inc.'s R. L. Needham 1 (40-ac), Jesse H. Chambers sur, elev 354 ft, Pecan chalk 3030-3416 ft; Austin chalk 3845-4053 ft, top of Woodbine 4053 ft, coring 4085 ft. Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi e of Pirtle, elev 370 ft, top Pecan chalk 2468 ft, sd 2500 ft.

SMITH COUNTY—A. G. Deck et al's Dora Kendall 1, Williams sur, 3 mi e of Van field, sp and sd. R. W. Fair et al's W. P. Rushing 1 (50.8-ac), Jacob Herrin sur, elev 393 ft, top Pecan chalk 3130 ft; Austin chalk 4000-4250 ft; top Woodbine sand 4296 ft, sd 4683 ft. Paul S. Williams et al's J. M. Dean 1 (100-ac), V. Moore sur, Bullard dome, elev 485 ft, sp and sd.

UPSHUR COUNTY—J. K. Wadley, C. H. Lyons et al's W. M. Shettlesworth 2 (50-ac), J. M. Dunn sur, elev 298 ft, coring 3705 ft.

VAN ZANDT COUNTY—J. C. Acre et al's F. W. Anderson 1 (160-ac), John Blair sur, 4 mi n of Wills Point, co 2068 ft. Roy I. Carter & Jennings' Sallie McGee 4 (43.4-ac), Blk. 20, Wm. Daniel sur, elev 441 ft, set cas 1190 ft. Joe Cadrin et al's J. F. Bass 1 (16-ac), Wm. Hart sur, sd 1700 ft. Pete Corley et al's J. L. Slaton 1, Wm. Carlton sur, 3 mi se of Ben Wheeler, dr shale 2110 ft. Green and Wynn's A. L. Eaton 1, L. Smith sur, lcn. Martin and Evans' J. R. Bryant 1, dr 560 ft. S. E. Miller et al's J. M. Palmer 1 (39.1-ac), Blk. 14, NCSL sur, sd 930 ft. L. B. Pruitt and W. W. Graham's G. W. Carter 2 (5.87-ac), Wm. Daniel sur, lcn. Rauch Bros. (Weltex Oil Corp.'s) Bearden-Palmer 1 (61.1-ac), Blk. 11, NCSL sur, fsh 1237 ft. Rogers & Schwartz et al's S. E. McKenzie 1 (106-ac), Wm. Daniel sur, sd 1257 ft. John Wrather et al's G. W. Carter 3 (144-ac), John Walling sur, elev 459 ft, Pecan chalk 1945-2041 ft, completed flowing 42 bbls. oil per hr ¾-in choke, td 2960 ft.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—Hammonds & Williams' W. T. Cook 1, J. N. Sorrell sur, Pecan Gap 1830-2371 ft, td 2392 ft, arr skid over for new hole. Hanover, Bergendall et al's Buchanan 1, W. M. McIlvain sur, dr 2650 ft, chalk. W. T. Boyd et al's W. L. Rudd 1, Jno. McMillan sur, dr 2375 ft.

MARION COUNTY—Ed S. Holman's Henderson 1, R. Bennnigton sur, dr shale 2471 ft. W. H. Oberthier's East Texas Ore & Dev. Co. 1, Walter H. Gilbert sur, sd cur titles, 3424 ft (Ozan).

PANOLA COUNTY—Fault's Supply Co.'s Wooten Est. 1, Winny Mann sur, elev 260 ft, cemtd 6⅝ csg 2058 ft, td 2140 ft. Givens & Holloway's Wooten Est. 1, Winny Mann sur, elev 281 ft, cored dry sand 2102-25 ft, sd 2154 ft. R. W. Price's A. A. Crawford 1, Jas. A. Williams 1 (63-ac), rur.

SHELBY COUNTY—Turner & Neal's Pickering Lbr. Co. 1, P. W. Harvey sur, core 1574 ft shale. Stovall et al's Pickering Lbr. Co. 1, P. W. Harvey sur, dr 1455 ft.

SOUTH TEXAS

BANDERA COUNTY—W. B. Kyle et al's Duke 1, J. A. Bennett sur No. 7, lcn. Peerless Oil & Gas Co.'s R. G. Garrison 1, Sec. 506, GC&SF sur, dr 1350 ft.

BASTROP COUNTY—Joe Mills' Mrs. W. H. Cardwell (Pruitt) 1, J. A. Navarro sur, dr 1050 ft. Ogden & Reed's M. F. Talley 3, J. Gray sur, dr 725 ft.

BEE COUNTY—Blanco Oil Co. & Al Buchanan's P. Perez 2-A, 330 ft sl and el N 100-ac se Sec 9, J. M. Uranga gr, sp. Dirks Bros.' Foley 1, Friendship area, mim; J. E. Roth 1, 990 ft nl, 330 ft wl of sw Section 11, set sur csg, wocs. Falvey et al's J. J. Grissom 1, McElroy sur, ru. Cecil Hagen's Scott 1, Normanna area, set sur csg. Heyser, Heart & Walton's R. Perez 1, Blk 9, se Section 8, Tuleta outpost well, sand 3955-73 ft, set csg, wocs. Humble Oil & Ref. Co.'s D. Fox 1, M. Fox sur, td 5667 ft, pb and now dr 4250 ft. Nichols Oil Corp.'s Hicks-Hall 5, Blk 37, Uranga Grant, jetting 25 bbls oil per day 3628-38 ft. United Prod. Co.'s G. A. Ray 47, BS&F sur, td 4214 ft, pb 3950 ft, perf 3935-45 ft, comp as gasser. R. J. Worthington et al's Rutledge 1, B. Q. Hadley sur, td 3399 ft, dst stuck abt 3200 ft, pulled off 100 ft from top, prep to fsh. N. G. Carter's E. & T. Ruiz 1, se 82-ac tr, F. Rolen sur No. 48, owdd, td 1690 ft, top Edwards lime 1672 ft, taken over from E. R. Cosby to complete. C. A. & R. G. Ingersoll et al's Mann 1, se cor tract, ru spudder. Jones and Keiffer's LaGrange 1, F. Rolen sur, dr below 155 ft. McPhee & Briggs' Florence Lamb 1, M. de Luna sur No. 4, td 1065 ft, sd for new rig. George O'Neill et al's Holly Crouch 1, dr 975 ft. R. Y. Walker's L. A. Hamilton 1, dr 925 ft.

CALDWELL COUNTY—O. Dawn's F. Tiller 1, G. Hinds sur, dr 2240 ft, showing little oil. W. B. Hinton's Osteen 1, Swearingen sur, td 2012 ft, showing little oil after acid treatment. Kurz Oil Prod. Co.'s C. Kurz Ranch 1, Klecamp sur, r for dst about 3975 ft. F. Meyers' Mooney 1, S. Seal sur, ru. McNeil Petroleum Co.'s J. W. Miears 1, Swearingen sur, dr 975 ft. Moseley et al's J. M. Pierce 1, Seale sur No. 8, dr 2060 ft.

DUVAL COUNTY — Edna Bryant et al's Kidd 1, Sec. 56, abnd 2220 ft. Conway and Buescher et al's W. K. Hoffman 1, Sec. 119, dr 2200 ft. Humble Oil & Ref. Co.'s Ruiz 1, 2080 ft sl, 200 ft wl Sec. 553, BS&F sur, lcn. Magnolia Pet. Co.'s Ruiz 1, Sec. 68, dr 2165 ft. W. C. McBride, Inc.'s E. R. Hagist 1-A, Sec. 265, dr 2050 ft. Mills Bennett Oil Corp.'s Duval County Ranch Co. 1, Sec. 192, dr 2820 ft. Southwest Drlg. Co.'s Cuellar 1, Sec. 114, set 10-in 40 ft, wocs. Stieren Oil Co.,Inc,'s Philp 1, Sec. 320, dr 2800 ft, rk. The Texas Co.'s T. J. Graham 2, Sec. 571, set sur csg, wocs. J. H. Winch's Smith Corkill 1, Sec. 491, dr 1750 ft.

FAYETTE COUNTY—Clark et al's Becker 1, Rountop townsite, lcn. Ross Fenton's Kasper 1, T.Green sur, lcn.

FRIO COUNTY—Amerada Pet. Co.'s Halff & Oppenheimer 2, J. H. Gibson sur No. 16, td 10,050 ft, pb and perf csg 3936-50 ft, flowing 5,000,000 cu ft gas and 350 bbls fluid per day through ¼ inch choke, 1210 lbs. csg pressure, shut in, 25 per cent fluid heavy black oil, badly cut.

GILLESPIE COUNTY—Ed L. Nixon et al's Lindig 3, M. J. Guerra sur No. 41, dr 650 ft.

GOLIAD COUNTY — Magnolia Pet. Co.'s Albrecht 1, J. P. Reid sur, dr 1100 ft.

GUADALUPE COUNTY—Burrows et al's Beuhring 1, J. Clements sur, lcn, prep to mim. H. H. Weinert's Schmidt 1, Wakfield and Stewart sur, ru. Grayburg Oil Co.'s Appling 1, J. Hodges sur, dr 250ft. L. E. Trout et al's McKee 1, Green DeWitt sur, dr 2500 ft, Taylor marl.

HIDALGO COUNTY—Gato Oil Co.'s Brock and Showers 1, 400 ft nl, 500 ft wl of Tr. 8, Blk. 26, Por. 79, Vista Hermosa sub, Por. 79-80, sp and set sur csg, wocs. T. I. Larsen, Tr.'s G. G. Salinas et al 1, Sh. 10, Por. 41, coring 2810 ft. Phillips Pet. Co.'s Seabury et al 1, Por. 38, Tr. 256, coring around 2750 ft. Union Sulphur Co.'s Am. Rio Grande Land & Irr. Co. 2, Blk. 86, Lot 2080, N. Capisallo District, Llano Grande Gr., dr 7625 ft.

JACKSON COUNTY — Atkins & O'Neil's Hodges 1, Blk. 22, LaWard, dr 4200 ft. Humble Oil & Ref. Co.'s Lawrence 1, J. Wilson sur, dr 6175 ft. Phillips Pet. Co.'s Drummond 1, Musquiz sur, td 7042 ft, pb 5675 ft, test sw, sd.

JIM HOGG COUNTY—J. M. Shugart's R. Holbein 1, Blk 55, sur 17, Las Animas Gr, dr 700 ft. Sun Oil Co.'s A. L. East 1, Blk 4, Sec. 33, dr 2600 ft. The Texas Co.'s Gutierrez 1, 2310 ft sl, 330 ft el, Sec. 165, lcn.

JIM WELLS COUNTY—O. W. Killam's W. D. Wade 3, ½ mi sw Larcro's Wade 2, dr 2000 ft. Magnolia Pet. Co.'s Seeligson 5, 1320 ft n and 660 ft e No. 2, Farm 1, Blk 4, V. Canales sur, lcn. Smith and Storey's Martha E. Dilworth 1, S. Welsh sur, Sec. 88, sd 6115 ft. Walsh and Long's Allen Land & Cattle Co. 1, dk.

KARNES COUNTY—E. E. Green et al's Miss Olive Henke 1, 2640 ft n along wl from sw cor, thence 330 ft e at rt angles in 300-ac tr, Seguin Grant, revised lcn, now ru.

KERR COUNTY—J. F. Morrisey Co., Inc.'s F. A. Karger 1, Sec. 1, BS&F sur, dr 1840 ft.

LA SALLE COUNTY—Standard Oil Co. of DC's J. M. Martin 1, Sec. 683, dry and abnd, 2258 ft.

LAVACA COUNTY—L. A. Jackson's Matt Pustka 1, Moses Mitchell sur, sp. Humble Oil & Ref. Co. & Mag. Pet. Co.'s C. S. Wilson 1, still wait to sp.

LEE COUNTY — James Pederson's C. A. Turner 1, D. Hudson sur, td 6330 ft, removed collapsed surface csg, clear hole to run 6⅝ in csg to 6150 ft.

LIVE OAK COUNTY — Baugh & McMillan's Walton & Campbell 1, D. R. Fant sur, dr 350 ft. Henderson Coquat et al's Little 1, Shipp sur, sand 4230-37 ft, dst, tool slipped, show 90 ft mud, cut with oil, 25 lbs pressure, 12 min, core in for new test. W. H. Helmerich's H. Cartwright 1, Seale Morris & Seale sur, td 5924 ft, sand 5900-1 ft, show gas, attempt dst from 5800 ft, tool slipped, r to make n test. Houston Oil Co.'s Cartwright 28, Colohado sur, coring 5450 ft. Jane Oil Co.'sH. L. Lark 3, Scrugham sur, dr 225 ft. Lion Oil Ref. Co.'s McNeil 2, Blk 9, Jane Curry sur, coring 5950 ft.

MAVERICK COUNTY—Fischer & Andrews' Matthews 1, Flowers sur, dr abt 450 ft.

McMULLEN COUNTY—H. K. Boysen et al's E. R. Hagist 1, Sec. 10, H&TC Ry. sur, dr 1800 ft. Byron Rife's Edrington 1, Sec. 79, fsg 2790 ft. R. P. Whitfield's L. Jacob Corp. 3, Sec. 9, swabbing 927 ft.

MEDINA COUNTY—Scoggins & Sanders' L. W. Burrell 1, Sec. 395, sd 1825 ft.

MILAM COUNTY — C. F. Drake et al's Standard Coal Co. 1, G. L. Johnson sur, sd 2035 ft. Second National Bank's B. P. Ward 1, L. Taylor sur, r 2356 ft.

REAL COUNTY—H. J. Heartwell's Mrs. M. S. Perry 1, Sec. 175, AB&M sur, sd 2860 ft to change engines.

REFUGIO COUNTY—Humble Oil & Ref. Co.'s M. V. O'Connor 17, Keating sur, td 4493 ft, pb 4417 ft, set csg 4390 ft, comp as gasser. Magnolia Pet. Co.'s F. B. Rooke 1, Donna A. Reogas sur, ru. E. W. Price et al's Jurica 1, Sec. 37, Bonnie View sub, lcn.

SAN PATRICIO COUNTY — Heep Oil Corp.'s Welder 4, Portillo sur, td 7247 ft, set 7 in 6692 ft, pb 5900 ft, perf csg 5874-80 ft, test some 33 gr oil and sw, trying to cut off water. Plymouth Oil Co.'s E. H. Welder 2-B, Portillos sur, ds stuck 5387 ft.

STARR COUNTY—Armstrong, Emanuels & Adams' Starr County Cattle Company 1, Blk 57, Por. 88-89, sp. Crawford et al's Hicks 1, Pedernal Grant, dr 420 ft. Jule Alford Oil Co.'s A. Flores 1, Tr. 250, Por. 38, tested dry abt 2850 ft, dd. C. R. Borah et al's A. Guerra 1, San Jose Grant, Share 6, sd 2687 ft. Goodwin & Zimmerman's Ida Davis 1, Blk 16, Tr. 4, Sh. 78, Por. 81, testing 1425 ft. Henshaw Bros. & Simons' M. M. Garcia 1, Blk 9, Sec. 908, set sur csg. Conroe Drlg. Co. et al's Guerra 1, Blk 35, Por. 56, dr 2900 ft. R. H. Vice's E. B. Carruth et al 1, Share 1-B, Por. 91-92, ru. C. L. Smith's Longfellow 1, Sec. 281, dr 3510 ft. Sun Oil Co.'s Gonzales & Clark 1, Sec. 372, dr 4085 ft. United Prod. Co.'s Guerra 1, Por. 55, dr 3300 ft. E. L. Younkins' Kelsey Bass 1, Blk. 19, Por. 87, sd 2572 ft.

TRAVIS COUNTY—Marts & Beavens' Emil Bloomquist 1, P. C. Harrison sur, abnd, depth not reported. Mims, New & Anderson's Bohm 1, Dolvalle sur, sd 515 ft. Barron & McGee's Lundgren 1, L. Kimbro sur, lcn (Orig rept in Milam County). C. A. Stubbs' J. Kerlin 1, 550 ft swl, 450 ft nwl 125-ac tr, Isaac Lindsay sur No. 61, dr 700 ft. Title et al's Johnson 1, dr 575 ft.

UVALDE COUNTY — T. T. Word's K. S. Truelove 1-B, dr 2275 ft. sandy lime.

VICTORIA COUNTY — The Texas Co.'s Irene Foster 1, Sec. 10, F&NO sur, set 812 ft 10 in csg, dd.

WEBB COUNTY — Starr State Oil Co.'s Yeager 11, Share 5, Las Animas Gr, dr 3496 ft.

WILLACY COUNTY—South Texas Development Co.'s F. Armendias 1, 330 ft from n and midway between e and w l of Share 4, 6 mi n Rio Hondo, lcn for 6000 ft test.

ZAPATA COUNTY—Merle Gunby's Alice D. Haynes 4, Blk 4, Haynes sub, Comitas & Villa Gr, prep to mim. O. W. Killam's A. M. Bruni 9, Blk 9, Blas Uribe Tr, Borrego Grant, ready to sp. Joe Palmer's J. M. G. Martinez 1, Blk 27, Sec. 434, dr below 250 ft. Sulgrave Oil Co.'s Maryland Trust Co. 1-D, Blks 3 and 4, Tr. D, sur 314, sand 1665-75 ft, set 7-in 1665 ft, wocs. A. H. Wray's Gopher Trust Estate 5, sec 1, Blk 12, San Ignacio Sub of Borrego Gr, dr 995 ft.

TEXAS GULF COAST

AUSTIN COUNTY—J. F. Wheelis et al's Wittenburg 1, H&TC sur, sec 177 (200.2-ac), shale 5118 ft. Quantana Pet. Co.'s L. S. Hillpoldt 1, M. N. Allen sur (56-ac), dr gumbo 1965 ft.

BRAZORIA COUNTY — Amerada Pet. Corp.'s Houston Farms Dev. Co. 1, L. G. Bachelder sur, stuck drill stem at 7645 ft, td 7663 ft. C. R. & G. Drilling Co.'s Truska 1, H&TB sur, sec 7 (75-ac), standing 7874 ft. Stanolind Oil & Gas Co.'s J. W. Surface 1, A. C. H. & B. sur, abst 462 (75-ac), dr shale 5573 ft. Turnbull & Irwin's Sutherland and Buck 1, A. Robinson sur (40-ac), abd 6510 ft.

CHAMBERS COUNTY—Humble O&R Co.'s A. Middleton 1, H&TC sur, sec 58, ru. Sun Oil Co.'s Hamilton 1, T&NO sur, sec 128 (640-ac), dr sand 6060 ft.

FT. BEND COUNTY—Benedum Trees Oil Co.'s Hensler 1, Chas. Sayer sur (223-ac), dr shale 5590 ft. Vico Oil Co.'s Darst 1, E. Powell sur (726-ac), abd 6217 ft.

GRIMES COUNTY—Herbert Holt & Sam B. Freund's M. O'Brien 1, Moses Evans sur (20-ac), dr shale 2965 ft. Marshall et al's J. W. Dodd 1-B, T. Jones sur (150-ac), shut down 1918 ft.

HARRIS COUNTY—Esco Oil Co.'s Seureau 1, Wm. P. Harris sur, mim. W. U. Paul's House 1, M. Magruder sur, drill stem stuck 7329 ft. T. S. & F. Oil Co.'s J. B. Hines 1, A. McCormick sur (63.33-ac), ru.

HOUSTON COUNTY — Boone Brothers' Tex. L. L. L. Co. 1, F. Martinez sur, no report. Same operator's Trinity State Bank 2, C. McEllis sur, ru. Humble O&R Co.'s Shaw 3, C. McEllis sur, dr shale 1142 ft.

JEFFERSON COUNTY—Navarro Oil Co.'s C. R. Toliver 1, S. Morris sur, wocs 1343 ft. Sun Oil Co.'s Long 1, J. Blair sur, dr sand 8640 ft.

LIBERTY COUNTY—Extension Oil Co.'s J. A. Lovett 1, P. P. Devers sur, dr shale 3787 ft. Liberty Independent Oil Co.'s J. M. Neal 1, S. Strong sur (100-ac), shut down 3203 ft. Jack Frazier's Lynotte Buffon 1, James Robeson sur (865-ac), preparing to perforate csg. Black Gold Prod. Co.'s R. D. McDonald 1, Cleveland Area, ru.

MONTGOMERY COUNTY—Brice & McCandless's Tex. L. L. L. Co. 1, Walker County School Land sur, waiting on rig. Reynolds et al's Stewart 1, M. Conner sur (595-ac), dr shale 900 ft.

WALKER COUNTY — The Texas Co.'s Thompson Lbr. Co. 1, Jose Ortega sur, dr shale 3180 ft.

WALLER COUNTY—Smith et al's J. R. Garrett 1, S. M. Williams sur (581.9-ac), shut down 605 ft. Stanolind O&G Co.'s Thorp 1, Vinnett sur, dr shale 4728 ft.

LOUISIANA GULF COAST

ACADIA PARISH—Humble Oil & Refining Co.'s Rice Milling Co. 1, s of Crowley field, sec 27-10s-2e, dr shale 2081 ft. Superior Oil Producing Company & Woodley Pet. Co.'s Dr. Newman 1, Churchpoint,sec 24-7s-1e, dk.

AVOYELLES PARISH—Southern Star Pet. Co.'s I. G. Boyette 1, sec 28-3n-5e, mim.

BEAUREGARD PARISH — Gulf Refining Co.'s Lutcher Moore 1-A, 7½ mi nw of De Quincey, sec 25-6s-12w, elev 81 ft, Heterostegina 4100-05 ft, Vicksburg 4960-62 ft, Hockleyensis 6916-18 ft, dr shale 7970 ft.

CALCASIEU PARISH—Humble Oil & Refining Co.'s Industrial Lbr. Co. 1-B, Big Woods area, northeast of Starks field, sec 27-8s-12w, dr sand 6652 ft. Gulf Refining Co.'s W. H. Stark 1, s of Vinton, sec 26-11s-12w, lcn. Fohs Oil Co.'s Castle 1, Gillis area, sec 13-9s-8e, dr shale 5260 ft. Union Sulphur Co.'s State 1, Gillis area, sec 12-9s-8w, dr sand 6757 ft. Wheeler Oil Co.'s Gabbert 1, e of Lake Charles, sec 28-9s-7w, dr shale 5110 ft.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake 10-A, sec 1-14s-9w, dr sand 6564 ft, drilled through 17 ft of rock. Same operator's State Calcasieu Lake 11-A, sec 1-14s-9w, lcn. Same operator's Jessen 1, Calcasieu Lake, sec 24-14s-10w, shut down 2099 ft.

EAST FELICIANA PARISH—Thompson Creek Oil Co.'s Fanny Noland 1, sec 70-1s-1w, shut down 1400 ft.

EVANGELINE PARISH—Humble Oil & Refining Co.'s Hattie Hass 1, nw of Reddell, sec 22-4s-1w, dr shale 6546 ft.

JEFFERSON DAVIS PARISH—Strake Oil Corp.'s Calcasieu National Bank 1, sw of Woodlawn, sec 12-9s-6w, dr shale 5726 ft.

LA FOURCHE PARISH—Barnsdall Oil Co.'s Herang Plantation 3, sec 97-17s-20e, td salt 6586 ft, pb 4208 ft, wocs. Emerald Petroleum Co.'s Bowie Lbr. Co. 1, sec 53-15s-18e, dr shale 1468 ft.

PLAQUEMINES PARISH—E. A. Howe's Buras Levee 1, sec 26-21s-30w, preparing to deepen, td 1558 ft.

ST. BERNARD PARISH—J. Danciger's Battles 1, sec 135-14s-14e, shut down waiting on orders, 6001 ft.

ST. MARTIN PARISH—The Texas Co.'s St. Martin Land Co. 6, ne of Henderson, sec 17-8s-7e, dr shale 9607 ft. W. J. Weir's DeClouet 1, sec 108-8s-5e, top Miocene 1003 ft, shut down 2322 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Duncan & Fuller's J. Hutton 1, nw nw 4-18n-7w, wocs 10-in csg 125 ft. Saline Drilling Co.'s Pardee 1, ne ne 27-14n-6w, elev 162.4 ft, dr 2085 ft.

BOSSIER PARISH—Jno. L. Anderson Tr.'s Leonard 1, sw sw 19-19n-13w, owdd, rur heavier rig, td 3670 ft. R. Wells Giles' Davis 1, 12-18n-13w, spd dr 500 ft. Wilcox (formerly carried Moody 1). Howard & Bird's Sam Gold 1, nw ne 36-20n-13w, arr res 1100 ft. Leonard Co.'s Pearson 1, nw se 22-21n-14w, dr 1825 ft. Plain Dealing Synd.'s S. H. Bolinger 1, ne sw 35-23n-13w, dr 1800 ft. Scott et al's Sherrell 2, 13-19n-12w, lcn.

CADDO PARISH—Ed Bailey et al's Hartzo 1, ne nw 28-22n-16w, dk. C. L. Hickman's Fee 1, nw nw 36-17n-13w, dr 2630 ft.

CATAHOULA PARISH—T. R. Hincey's La.

STONE OIL TOOL COMPANY — HOUSTON, TEXAS — SOTCO — U.S.A.

RENTAL TOOL SERVICE

ROTARY FISHING TOOLS

DRILL PIPE AND CASING CUTTERS

1502 MAURY ST. PHONE C-6329
Night Taylor-7674 — Taylor-9838

FOR FURTHER INFORMATION SEE COMPOSITE CATALOG

OPERATIONS ENGINEERS, INC.
Torsion Balance Surveys
SHELL BUILDING
HOUSTON FAIRFAX 0636

THE FORT WORTH LABORATORIES
Field Gas Testing. Analysis of oil field brines, gas, minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware.
F. B. Porter, B.S., Ch. E., Pres.
R. H. Fash, B.S., Vice-President
828½ Monroe St., Ft. Worth, Tex.

INDEPENDENT EXPLORATION COMPANY
Seismograph Surveys
2011 Esperson Building
Houston Texas

PATENTS
Patents, Trade Marks, Copyrights and Infringement Litigation
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Fairfax 8232 Houston, Texas

HIRSCH, SUSMAN AND WESTHEIMER
ATTORNEYS AT LAW
32nd Floor Gulf Building
Houston, Texas
Specializing in Oil Law and Land Law

PATENTS
JESSE R. STONE
and LESTER B. CLARK
Patents, Infringement Litigation, Trade Marks
Associated with
Andrews, Kelley, Kurth & Campbell
2200 Gulf Bldg. Houston, Texas
Capitol 7245

Coming to
PHILADELPHIA?
Rooms with Bath for $2.50
HOTEL
PENNSYLVANIA
39TH *and* CHESTNUT STREETS

Cent. Lbr. Co. & Tensas Delta Lbr. Co. 1, sw ne 32-9n-6e, sd for ds, 1535 ft.

CLAIBORNE PARISH—K. C. Bundy et al's J. K. King 1, 12-21n-7w, dk.

DE SOTO PARISH—Century Oil & Drilling Co.'s J. M. Norton 1, sw ne 27-11n-14w, used acid in chalk topped at 1303 ft, td 1700 ft. Dempsey & Manziel's Thigpen 1, sw ne 33-13n-13w, sd while drilling out cement, td 1730 ft. E. L. Foster et al's Youngblood 1, ne ne 9-11n-14w, owdd, td 1502 ft. Hester et al's Alston 1, ne sw 11-11n-16w, elev 200 ft, sd repr rig, 2615 ft. Geo. Le Grand's Vance 1, 34-12n-16w, co to deepen, 2000 ft. McCormick et al's Harris 1, sw se 11-13n-14w, mim. E. T. Oakes' Johnson 1, ne nw 30-13n-15w, sd 5466 ft oolitic lime.

NATCHITOCHES PARISH — Benedum & Trees Oil Co.'s Carver Est. 1, se se 6-8n-7w, elev 103 ft, dr 4935 ft, top chalk 3555 ft, top Arkadelphia 3386 ft. Clyde Creighton's Friedman 1, swc 52-7n-6w, co 1090 ft. Jack Lent's Brown Lbr. Co. 1, ne sw 27-9n-9w, pb to 2470 ft, old td 3002 ft. Roy Raines et al's Raines 1, sw sw 28-9n-10w, co to deepen, td 2605 ft.

RED RIVER PARISH—Cope et al's Thomas 1, nw se 34-13n-8w, sd 2375 ft. O. K. Oil Co.'s Franklin Realty Co. 1, sw se 32-11n-9w, sd 1326 ft.

SABINE PARISH—R. L. Gay, Tr.'s Long-Bell Lbr. Co. 4, ne ne 5-8n-13w, rur. Tex-La-Ark Oil Co.'s Pickering Lbr. Co. 1, ne sw 3-3n-12w, top Wilcox 2192 ft, sr to bottom, td 2620 ft.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Dev. Co.'s Fischer 1, nw ne nw 6-6s-4e, claim sg 962-65 ft, did not test, dr 966 ft.

HEMPSTEAD COUNTY—Dr. E. L. Austin's J. W. McWilliams 1, nw sw 19-13-23, dr 2080 ft. F. W. Martin & Co.'s Lafferty 1, se nw 17-14-24, pb to 2200 ft, old td 3670 ft.

HOT SPRINGS COUNTY—R. E. Morris' Morris & Lang 1, sw sw 19-6s-17w, spd and sd.

LA FAYETTE COUNTY—W. H. Harvey's A. M. Allen 1, ne sw 18-19-24, 2500 ft oih, wosr, td 2781 ft; A. M. Allen 2, se sw 18-19-24, 10-in csg 200 ft, dr 390 ft. Kamon & Neely's Red River Lbr. Co. 1, sw sw 26-19-25, rur. A. H. & A. F. Tarver's Russell 1, ne nw 12-17-25, dr 2930 ft. Wadley-Erwin, Tr.'s Bodcaw Lbr. Co. 2, se se ne 19-16-23, dr 4950 ft.

MILLER COUNTY—Bloomburg Oil Corp.'s Patterson 2, se ne 5-19-28, lcn. King Oil Corp.'s Schroder 1, sw ne 24-14-28, sd 3020 ft. Rhone, Ford & Goodwin's Frost Est. 1, se se sw 8-15-26, wocs 10-in csg 200 ft. Lee Timberlake's Frost Est. 1, sw sw se 27-15-26, dr 980 ft.

OUACHITA COUNTY—T. J. Gaughan et al's M. Bragg 1, nw sw 30-13-17, tested so 1380-94 ft, arr set 6-in csg 1380 ft.

UNION COUNTY—Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, sdtr csg 2320 ft, td 2765 ft. Jovian Oil Co.'s Perdue 1, 3-17-14, core 3295 ft. Reuter Oil Co., Inc.'s Kinard 1, nw se nw 32-18-14, wosr 2189 ft. Geo. L. Pace's Union Sawmill Co. 1, ne ne sw 24-18-12, dk.

WOODRUFF COUNTY—L. P. Livel's P. Perkins 1, sw se se 5-5n-2w, rur. Jno. N. Watkins' Chas. Upshaw 1, nw sw 17-5n-2w, dr 1875 ft.

MISSISSIPPI

CLARKE COUNTY — Clarke County Oil Co.'s Dora Butler 1, sw sw 15-2n-16e, dk.

GREENE COUNTY—United Gas Pub. Serv. Co.'s School Board 1, w½w½ 16-1n-5w, dr 4851 ft.

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, 13-7s-10w, sd for 6-in csg 1100 ft.

ISSAQUENA COUNTY—Pelican Oil & Gasoline Co.'s Martin G. Bender 1, nw nw 11-12n-8w, sd repr boiler, 2902 ft gummy shale (Midway).

MONROE COUNTY—P. J. McAlpine et al's Frank Rye 1, ne sw 15-15s-17w, dr 2804 ft; Crook 1, ne ne 4-13s-18w, dr 740 ft.

MONTGOMERY COUNTY—D. C. Shaffer et al, Fee not given, lcn.

PEARL RIVER COUNTY—Gulf Ref. Co.'s Goodyear-Yellow Pine Lbr. Co. 2, 23-2s-17w, dr 2508 ft.

STONE COUNTY—Gulf Ref. Co.'s Dantzler Lbr. Co. 6, sw sw 22-4s-11w, dr 6075 ft.

WASHINGTON COUNTY—Perkins & Dee's Lee 1, 33-15s-8w, arr res 300 ft (corrected depth).

ALABAMA

COVINGTON COUNTY — Geometer Prod. Corp.'s A. B. Culbreth 1, sw sw ne 8-2n-14e, dk and mim.

CONECUH COUNTY—Ray L. Estabrook's Miller Lbr. Co. 1, w½w½ ne 1-4n-12e, mim.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, sd 2376 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15s-16w, sd 4182 ft.

PIKE COUNTY — Alabama Drilling Co.'s Faulk 1, nw nw 31-11n-21e, dk.

TENNESSEE

DECATUR COUNTY — Steinberger & Pierce's Montgomery 1, trying to kill water flow, preparatory using acid, td 1605 ft.

FAYETTE COUNTY—Hay-Fay O&G Co.'s Morrison 1 (1 mi n Laconia), 10-in csg 500 ft, dr 910 ft. Mike Kissick's Claxon 1 (9 mi n Somerville and 7 mi s Stanton), 10-in csg 550 ft dr 1000 ft. Mid-Continent Dev. Co.'s Smith 1, (2 mi s Dancyville), rur.

HAYWOOD COUNTY—E. Randall Henderson's Jarrett 2, 1½ mi s Brownsville), dr plug 6⅝ in csg 2200 ft.

MICHIGAN

MIDLAND COUNTY — Goll-Graves-Mechling's Oviatt Estate 1, 16n-2e, sec 24, dr 350 ft. Howard Patterson's Haskins 1, 13n-2e, sec. 26, sd 2850 ft.

ISABELLA COUNTY—Pen-Yan Investment Corp.'s Ackerman 1, 16n-4w, sw nw nw-12, lcn. A. R. Morris' Hart 1, 15n-3w, sec 18, sd 3725 ft. Michigan Gas & Oil Co.'s Hanson 1, 13n-6w, sec 33, lcn. G. G. Hanner's Dargitz 1, 13n-6w, sec 20, sd 325 ft.

OGEMAW COUNTY—Muskegon Oil Corp.'s Wilson 1, 22n-1e, sec 24, sd 2600 ft. McClanahan Oil Co.'s Buffalo Land Ranch 1, 21n-3e, ne sw nw-7, lcn. Lupton Oil Co.'s Rakestraw 1, 24n-3e, se se sw-35, lcn.

MONTCALM COUNTY — L. E. Duvall's Eiknorch 1, 11n-10w, sec 13, fsg 1250 ft. J. W. Leonard's Durbin 1, 10n-5w, sec 11, skidding rig.

MECOSTA COUNTY — Alma Mecosta Synd.'s Sullivan 1, 14n-8w, sec 19, lcn. Gordon Oil Co.'s Brisboy 1, 13n-7w, sec 8, sd 1650 ft; Engleman 1, 15n-8w, sec 9, sd 1500 ft. Daily Oil Co.'s Rouen 1, 16n-10w, sec 24, sd 1600 ft. Columbia Oil Co.'s Arnett 1, 13n-8w, sec 23, dr 1125 ft. Secord Oil Co.'s Van Houghton 1, 13n-7w, sec 35, sd 125 ft. Vale and Ward's Flowers 1, 15n-7w, sec 33, sd 350 ft.

GRATIOT COUNTY—McClanahan Oil Co.'s Sullivan 1, 12n-3w, sec 33, dr 3300 ft. Mid-State Development's Yost 1, 12n-2w, sec 27, sd 4390 ft. Ithaca Oil Co.'s Thum 1, 9n-1w, sec 19, sd 678 ft.

SAGINAW COUNTY—Fred Turner's Sunrise Farm 1, 10n-4e, sec 6, sd 1858 ft. Great Northern Oil Co.'s Olmstead 1, 13n-3e, sec 23, lcn. Chapin Oil Co.'s Sutlif 1, 9n-1e, sec 16, sd 2550 ft.

GLADWIN COUNTY—M. F. Whitehill's Kintner 1, 17n-2w, sec 11, sd 3886 ft, may deepen or treat with acid, producing approx. 30 bbls daily.

LAPEER COUNTY—Fred Craft's Gerwolds 1, 8n-9e, sec 9, temp abn 650 ft. W. C. Sowell's Schemlpening 1, 8n-9e, sec 3, temp abn lcn; King Ranch 1, 8n-9e, sec 1, lcn temp abn; Kohler-Wilson 2, 8n-9e, sec 4, sd 950 ft. Clyde Newnon's Herklotz 1, 8n-10e, sec 28, rig.

ALLEGAN COUNTY — Bear Creek Dev.'s Fors 1, 3n-14w, sec 29, br.

BAY COUNTY—Webber Oil Co.'s Stepanski 1, 15n-4e, sec 14, dr 1900 ft.

LENAWEE COUNTY — P. D. Snavely's Lindsay 1, 7s-3e, sec 6, dr 200 ft.

SHIAWASSEE COUNTY—John F. Hurley's Van Pelt 1, 8n-2e, sec 35, sd 1800 ft. Geoysyn Oil Co.'s Hnesva 1, 8n-2e, sec 34, dr 1800 ft. D. H. Dornnell's Hardy 1, 6n-4e, sec 7, dr 1500 ft.

LIVINGSTON COUNTY—Talbot Oil Co.'s McPherson 1, 3n-4e, sec 35, csg 1800 ft. H. Snell's Zebb 1, 2n-5e, sec 34, sd 5017 ft.

OAKLAND COUNTY — T. F. Caldwell's Beecher-McKay 1, 1n-7e, sec 21, temp abn 1400 ft.

MACOMB COUNTY—H. H. Brown's Bower 1, 3n-14e, sec 29, org abandoned at 1545 ft, rig skidded and now drilling at 650 ft.

ROSCOMMON COUNTY—Black Diamond Petroleum Synd.'s Vaughan 1, 24n-4w, nw nw ne-28, sd 200 ft.

ST. CLAIR COUNTY — P. D. Bornman's Boldt 1, 8n-16e, sw se nw-28, lcn.

KENT COUNTY—Bryan & Martin's Aldrich 1, 8n-11w, ne sw sw-3, lcn.

ALCONA COUNTY—Black River Oil Co.'s Ranger 1, 28n-9e, sw se sw-22.

MASON COUNTY—Dragon Dev.'s Young 1, 17n-15w, sw nw nw-15, lcn.

Announcing the **THIRD EDITION**
of the Well Known Book . . .

DEEP WELL DRILLING
by **WALTER H. JEFFERY**

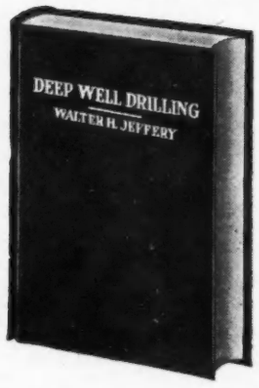
Re-written and revised to date, and enlarged to the addition of the following New Chapters:

GEOPHYSICAL PROSPECTING AND AIR MAPPING.
STRAIGHT HOLE DRILLING AND THE TREATMENT OF CROOKED HOLES.
WATER SUPPLY.
THE GAS-AIR LIFT METHOD OF PRODUCING OIL.
A. P. I. CODES.

Preparatory to writing the new book, the author spent weeks in a first hand study of modern methods of drilling by the rotary system, and of completing wells, controlling high pressures and operating wells in the deep fields of California and Oklahoma.

The third edition contains 816 pages, 150 pages more than the second edition, and 452 illustrations, but the price is the same, $6.00.

Send Check to **GULF PUBLISHING COMPANY**
3301 BUFFALO DRIVE **HOUSTON, TEXAS**



BULLETINS

Sheet Iron

Republic Steel Corporation, Massillon, Ohio, is distributing an interesting booklet which is a complete primer on sheet iron. The 64-page booklet traces the history and uses of iron and is well illustrated.

Folder

Master Separator and Valve Company, 629 South Hill St., Los Angeles, has issued a folder describing scrubbers and separators for gas, oil, air, vapor and steam. A copy will be mailed upon request.

Booklets

The Linde Air Products Company, New York City, is offering two new booklets which will be of interest to a wide range of industries. They are "Precautions and Safe Practices" and "Recommended Practices for Gas Cutting of Structural Steel". Either or both will be mailed upon request.

NEWS *from the* *Industry's* EQUIPMENT MAKERS

Sperry-Sun Well Surveying Company Opens Houston Office

Due to a greater demand for Sperry-Sun Well Surveying Company service in the Gulf Coast district, the company has moved its Dallas office to Houston and has established headquarters in a new and modern office building equipped with shop, laboratory and garage facilities. The building is located at 3118 Blodgett Avenue.

The Dallas office has been discontinued and all correspondence, inquiries, etc., should be directed to Houston.

The executive offices of the company still will be maintained at 1608 Walnut Street, Philadelphia, Pa.

Mission Manufacturing Company Building New Houston Plant

Mission Manufacturing Company, Houston, is building a new plant to take care of the increased demand for its products. Growth of the company, even during the depression, has been steady.

The new plant is located one half mile from the city limits on the Humble road. The building is 138 feet long, 100 feet wide, and is of Mission design to conform with the name of the company. The architecture is taken from an authentic old California mission. The front of of the building is two stories high, and the air-conditioned offices are on the second floor.

A modern heat-treating plant in a separate building is included in the specifications. In addition to present equipment, new equipment valued at more than $40,000 will be ready for use upon opening of the new plant. New equipment already purchased is valued at $20,000.

The main building along will cost $40,000. The plant will be most modern for the manufacture of its particular type of products, according to the company officials.

The company was originally a sales agency for oil field supplies, and became a manufacturing company in 1929. Officers are: Walter Bedford Sharp, president; Dudley C. Sharp, vice president, and W. T. Campbell, vice president.

Wilson-Snyder Appoints Coastal Refinery and Line Representative

Maintenance Engineering Corporation of Houston, Texas, have been appointed exclusive sales and engineering representatives for Wilson-Snyder pumping equipment for refinery, pipe line and industrial service in the Gulf Coast area. Their long acquaintance and experience with the mechanical requirements of the district's industries will facilitate the handling of inquiries, information and sales. Maintenance Engineering Corporation have operated as refinery and pipe line equipment specialists in the Gulf Coast area for many years, and this latest addition to their line of products will be welcomed by their many friends and also by the many Wilson-Snyder users in their territory.

Wilson Supply Company of Houston continues as exclusive distributor of Wilson-Snyder slush pumps, oil country pumps, and accessories for the production division of the oil industry in the Gulf Coast area.

Charles L. Lockett, Jr., Is To Reenter Export Sales Work

Charles L. Lockett, Jr., for the past 2½ years Mid-Continent sales manager of International Derrick & Equipment Company with headquarters in Dallas, resigned his position, effective December 1, to reenter export sales work.

Having graduated from the Ohio State University with an engineering degree, Mr. Lockett spent four years as field engineer with Ohio Fuel Supply Company, a subsidiary of the Columbia Gas & Electric Company.

In 1925 he accepted a position with the eastern sales division of International Derrick & Equipment Company, and subsequently had charge of its Rocky Mountain division with headquarters in Denver. He was later transferred to the Mid-Continent sales division of the company.

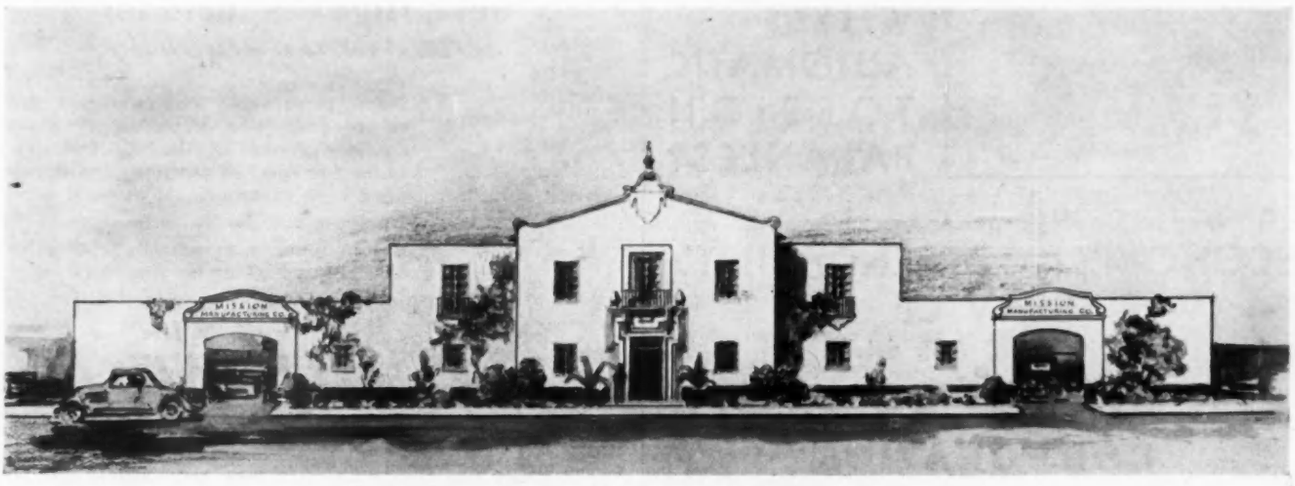
In 1928 he was advanced to the export division with headquarters in Columbus and New York, and in this capacity made numerous trips to Venezuela, Colombia, Trinidad, Mexico and other central South American countries. He also represented Ideco at The Hague, in London, and in Canada.

In 1932 Mr. Lockett became sales manager of the Mid-Continent division of International Derrick & Equipment Company, with headquarters in Dallas.

International Nickel Company Expands Casting Service Staff

A. J. Wadhams, manager, development and research, The International Nickel Company, Inc., has announced the addition of Mr. David M. Curry to the development and research staff.

Mr. Curry will make his headquarters in New York and will devote his time to development work in the nonferrous casting field, covering the entire range of foundry operations. He expects to spend the next six weeks in the Detroit area, where his experi-



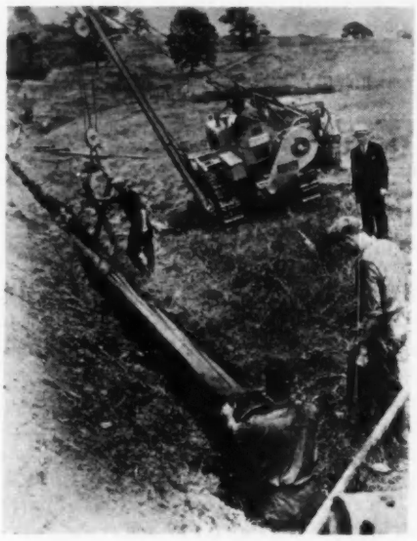
Mission Manufacturing Company's New Plant in Houston

ence with the automotive and allied industries makes him particularly well qualified to assist the foundrymen and manufacturers of that district with problems involving the use of nickel in non-ferrous castings. While in Detroit he will operate out of the district office of The International Nickel Company in the General Motors Building.

Mr. Curry was for eleven years associated with the Ford Motor Company, occupying the position of Assistant Superintendent of Foundry Departments. During that time he supervised the production of all non-ferrous castings used in the construction of Ford and Lincoln motor cars and Ford and Stout airplanes and airplane engines. He was later wtih the Federal Mogul Corporation of Detroit in charge of all foundry activities, and in recent years carried on an extensive consulting practice in the middle west.

Difficult Problems Overcome In Laying Seven-Mile Gas Line

Although the 16-inch pipe line recently completed by United Natural Gas Company between Lewis Run and Bradford, Pennsylvania, is only slightly more than seven miles long it presented as many construction problems as some lines many times its length. It traverses steep mountainsides and. deep ravines. It crosses streams and swamps and much of it is laid through rocky soil.



Laying Difficult Line in Pennsylvania.

The joints run from 38 to 43 feet long and weigh 62.5 pounds per foot, which means a total weight of 2300 to 2700 pounds. In spite of the heavy loads and the rough topography of the line a comparatively small tractor handled the pipe. A "Caterpillar" Twenty-Eight equipped with an Allsteel side boom was selected for the job and not only placed the pipe in position and lowered it into the ditch but hauled it up the steep mountain grades and strung it along the right-of-way.

Another interesting feature of the job was the Dresser couplings used throughout its entire length. Thus a Bradford product, used on pipe lines all over the world, had the honor of sealing the line that brings natural gas to one of the best known oil towns in America's pioneer field.

Catalog

Ingersoll-Rand, New York City, has issued a catalog which describes the stationary type Diesel engine it manufactures. The catalog will be mailed to interested parties.

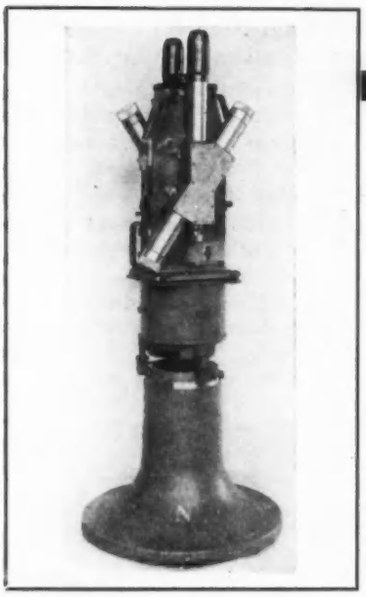
Photo-Electric Cells

Continental Electric Company, St. Charles, Illinois, has issued an interesting bulletin concerning photo electric cells and their various applications.

This bulletin will be mailed without charge upon request.

Forgings

Kropp Forge Company, Chicago, recently issued a new bulletin, "Forging the Impossible", which will be of interest to many individuals and companies. The bulletin describes and illustrates some of the difficult forgings made by the company.



ASKANIA

WHY AUTOMATIC TORSION BALANCES?

For reasons of . . .

ECONOMY . . . DEPENDABILITY SERVICE

Write us NOW for details

AMERICAN ASKANIA CORPORATION

HOUSTON, TEXAS CHICAGO, ILLINOIS

Set a High Standard for *Service and durability*

Many remarkable improvements are recorded in our Williamsport plant for operations in the oil industry. Lines for specific purposes are developed here that have set unusual service records.

Get in touch with us today for valuable information if you need wire lines.

Williamsport WIRE ROPE COMPANY

Main Office and Works: Williamsport, Pa.
Branch Sales Offices: 122 S. Michigan Ave., Chicago, Ill.
Mid-Continent Supply Company
Distributors in Texas, Louisiana and Arkansas

New Equipment for the Field

Machinery .... Tools .... Catalogs .... Books

▼ ▼ ▼

Forged Steel Male End Crosses

KEROTEST MANUFACTURING COMPANY

Forged steel male end crosses for test pressures up to 6000 pounds per square inch and working pressures up to 3000 pounds per square inch now are being manufactured by Kerotest Manufacturing Company, Pittsburgh.

Kerotest Cross

They are available in four styles: four male outlets; three male, one female outlet; two male, two female outlets; and one male, three female outlets.

These Kerotest products are drop forgings, pressed and hammered to shape in special dies. All threads are full smooth threads machined to API line pipe gauges, insuring perfect joints and freedom from leaks.

Mud Desander

MERCO CENTRIFUGAL SEPARATOR COMPANY, LTD.

As an economic necessity in the use of rotary drilling mud, a new desander has been developed by Merco Centrifugal Separator Company, 343 Sansome Street, San Francisco, California. It embodies the same basic principles that have been successfully used in a large separator known as the Type A-30. The new model is for smaller capacities and will desand from 100 to 200 gallons of mud per minute, depending upon its viscosity, which is ample for a central mud plant handling from four to six wells.

The new separator is a self-contained unit mounted upon a single base and operated by an electric motor. It is designed to extract substantially all sand from the mud. It embodies only one moving part—the rotor, which is suspended from an oscillating radial-thrust bearing at top.

The principle of operation is simple. The feed, after passing through a coarse screen to remove large debris, enters the rotor at the top and immediately comes under the influence of the centrifugal force. The settling force is equal to 67 times that of gravity. The heavy components of the feed are projected to the periphery of the rotor while the "clean" carrying fluid passes out of the rotor over a weir near the center.

The solids, concentrated in some fluid, pass out of the rotor at the periphery through a series of nozzles. A large part of this discharge drops to the bottom of the housing, where it is picked up by the rotor and returned to the periphery. This return furnishes means for further concentrating the solids and flushing entrance to the nozzles.

The remainder of the discharge from the nozzles passes through a specific gravity device which regulates the density or concentration of the discharge.

This separator may be employed to prevent the loss of mud-weighting material.

"A Report on the Petroleum Industry of the United States"

Executives, engineers and others engaged in the oil business will find of interest the very recently published 392-page book entitled "A Report on the Petroleum Industry of the United States."

This book, which is an extremely exhaustive analytical report on production engineering methods, proration and other operating factors as they influence both the present and future crude oil reserves of the nation, was written and compiled by Stanley Gill, consulting engineer, Houston.

The report does not discuss either the necessity or the advisability of curtailment of rates of production of petroleum as economic measures. It deals with the effect that curtailment of rate of production of petroleum will have upon the quantity of oil recovered, the period of time over which it will be recovered, and the expenditure necessary for its recovery. It presents, also, a discussion of the engineering phases of the general question of conservation, and of the necessity for conservation. Facts and opinions are presented on the engineering phases on the problem of conserving crude petroleum supplies and does not attempt to deal with the economic question of increasing the profits of producers of petroleum by compulsory curtailment of production rates.

The compilation of a vast amount of facts and figures, which are presented and to which references are given, are the basis from which Gill has drawn many interesting conclusions, including the thought that because of the inventive genius, scientific and technical ability, and manufacturing skill of American technical men there is no imminent danger of exhaustion of the petroleum reserves of the United States.

The book was especially prepared for presentation to members of the Sub-Committee on Petroleum Investigation, and was given to them during their hearings at Dallas. It now is available to the general public at $10,00 per copy from The Gulf Publishing Company, P. O. Box 2811, Houston, Texas. "A Report on the Petroleum Industry of the United States" is amply illustrated and attractively presented in easily readable form.

Rotary Drilling Outfit

LUCEY PRODUCTS CORPORATION

Lucey Products Corporation, Tulsa, Oklahoma, has announced the Lucey internal combustion engine powered mechanically driven rotary drilling outfit which the manufacturer recommends for any depth. Principal factors considered in its design include flexibility, ruggedness, compactness and portability. Power is transmitted through flexible, shock-absorbing "V" belts, each unit is strong and built with a generous factor of safety beyond any possible drilling emergency, yet each unit is readily portable on conventional oil field hauling equipment without dismantling, the manufacturer claims.

Each engine is mounted on heavy structural steel sled

type skids extended to take the power take-off. The power take-off shafts are mounted on S-K-F self-aligning roller bearings and connected by Diamond chain couplings. Each "V" belt pulley is mounted between two bearings eliminating troublesome overhanging drive. To remove the "V" belts, the flexible couplings are disconnected, the pedestal caps removed and the shaft with bearing sleeves and seals all intact lifted sufficiently to allow belts to pass.

Engines are connected by "V" belts so that both engines may be used to drive either the hoist or pump; either engine may be used to drive either the hoist or pump; or either engine may be used to drive both the hoist and pump. This last feature will immediately be recognized as a distinctive advantage as it allows major repairs to be made on either engine without completely shutting down drilling operations.

The drive connecting the two engines is completely cut out during normal drilling operations by disconnecting the couplings, thereby eliminating excessive wear encountered when idle pulley floats on revolving shaft.

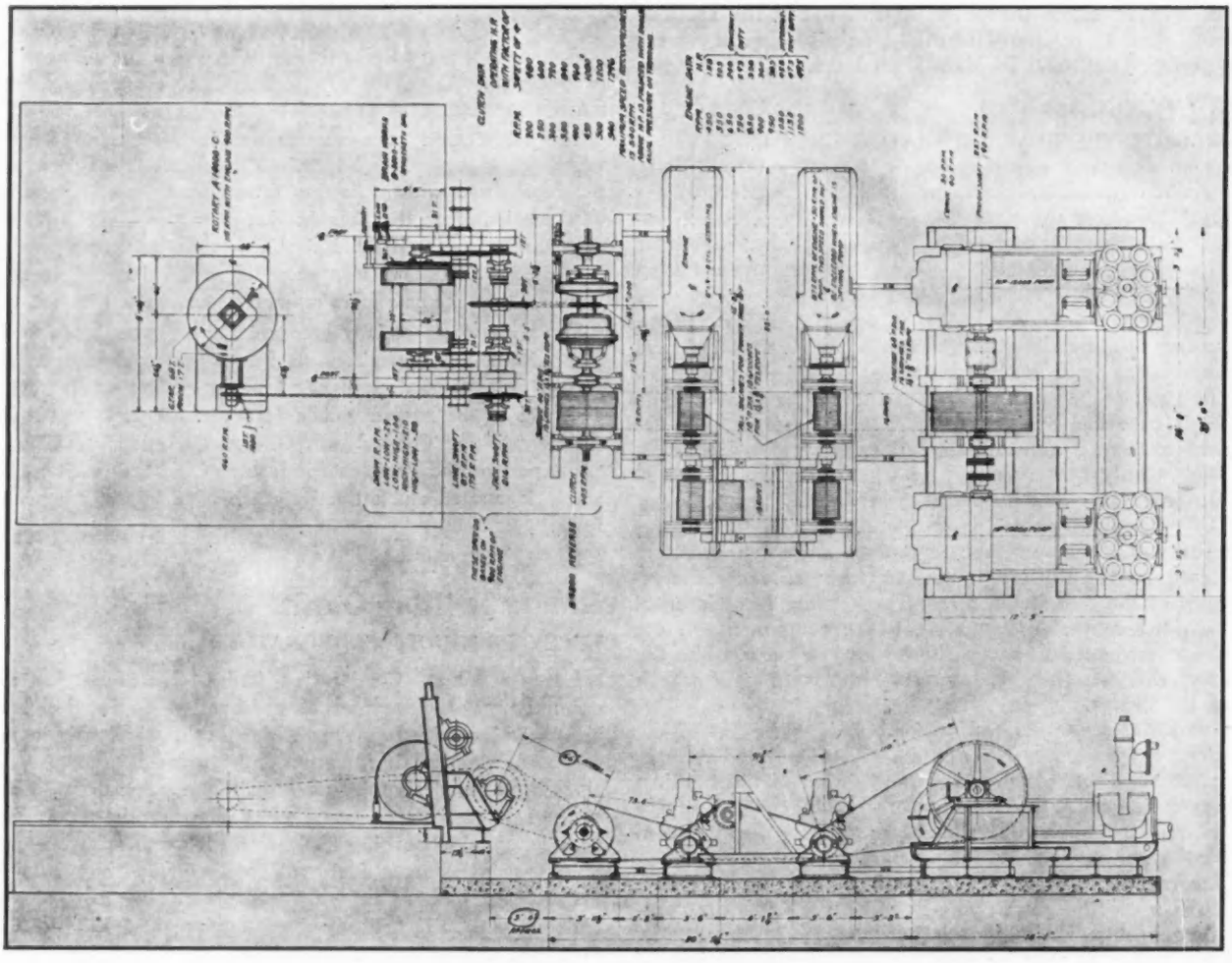
Type B-4800-S Lucey reverse clutch is probably the largest and most rugged of its type ever introduced into drilling service, and has been thoroubhly field-proven in heavy duty rotary drilling operations over a long period, the manufacturer claims. At 900 r.p.m. engine speed, 405 r.p.m. clutch speed, it is rated at 960 horsepower with safety factor of four. Forward and reverse clutches are heavy duty Twin Disc clutches, and the complete unit is mounted on heavy structural steel skid base.

The reverse clutch shaft is mounted on three SKF self-aligning barrel type roller bearings, two of which are fitted with rigid housing. The end bearing housing out beyond the "V" belt pulley, is fitted with an adjustable bearing container. A wedge is used for vertical adjustment of the end bearing, while heavy set screws with lock washers and nuts are provided for cross adjustment. This construction permits the bearing housing to be adjusted in any direction to relieve shaft of all bending strain. The end bearing housing is removable without removing the bearing container from the shaft, thus it is a simple matter to remove or replace "V" belts.

Two heavy structural steel sled type skids form the foundation for the pumps and pump jack shaft pedestal. Pumps and pedestal are bolted to the skids and positive alignment is maintained. The jack shaft is mounted on Timken roller bearings fitted into self-aligning housings, and is connected direct to the pinion shaft of the pumps by Diamond flexible couplings.

The design of the Diamond sprocket flexible coupling is unique. It consists of two end sprocket sections with a floating center sprocket section between. An aluminum cover is provided so that the coupling runs in oil. To change pumps it is necessary merely to remove the cover, drive pin from encircling chain and install chain and cover on either pump.

"V" belts are kept tight by means of jacks between the various units. An idler compensates for slack in the drive between the engines. Although the engines could be cooled with conventional radiators, cooling towers of the type illustrated are recommended by the manufacturer.



Lucey Rotary Drilling Outfit

Squeaks *from the* BULL WHEEL

There was a fearful crash as the train struck the car. A few seconds later Mrs. Pickens opened her mouth to say something, but her husband stopped her.

"Never mind talking," he snapped, "I got my end of the car across. You were driving the back seat and if you let it get hit it's no fault of mine!"

"Well, my boy, what did you get for your birthday?"

Three-year-old: "Aw I got a little red chair but it ain't much good. It's got a hole in the bottom of it."

Iceman (entering kitchen with cake of ice): "Hello sonny."

Little Boy: "Hey; when you call me that, smile."

"Where did you get the black eye?"

"Oh, I got into an argument with a wise guy about driving in traffic."

"Why didn't you call a cop?"

"He was a cop."

"You ought to get acquainted with the Browns. I'm sure you'd like them."

"Why so?"

"They're the kind of people you can tell to drop in any time and feel sure that they won't."

Once upon a time a man got up early on Sunday morning to let the iceman in and not being able to find his bathrobe, he slipped on his wife's kimono. When he opened the door he was greeted by a nice big kiss by the iceman. And the only way he could figure it out was that the iceman's wife had a kimono just like the one he had on.

Mrs. Gleeson (at concert): "She has quite a large repertoire, hasn't she?"

Gleeson: "Yes, and that dress makes it look all the worse."

"Is this candy pure?"

"As pure as the girl of your dreams, sir."

"Gimme a pack of gum."

The Boss (who has just dropped in on the football game): "So this is your uncle's funeral, Perkins?"

Office Boy (with presence of mind): "Looks like it, sir. He's the referee."

What do you do with all your money? Buy fur coats to keep your girls warm?

No, just to keep them.

"I am going to buy a $10 brassiere for your birthday. What size do you wear?"

"Never mind. Give me the $10, because I'm flat busted."

"I beg your pardon, Miss, but would you care to take a ride?"

"Sir! I'll let you know I'm a lady."

"I know that. If I wanted a man, I'd go home and get my father."

"I didn't mean to make you mad."

"Big boy, you didn't make me mad. You just didn't make me."

The family was seated at the table with a guest, who was a business acquaintance of Dad's, all ready to enjoy the meal, when the five-year-old son blurted out: "Why mother, this is roast beef!"

"Yes," answered the mother. "What of it?"

"Well, Pop said this morning that he was going to bring a big fish home for dinner tonight."

Sambo was hired out on a railroad gang. At the close of the first shift he was all tired out, and sought the boss.

"Mister, you' sho' you all got me down on that payroll?"

"Sure," said the boss. "Here's your name—Sambo Simpson. That right?"

"Yes suh," replied Sambo. "A jus' thought you might have me down as Samson."

A newly married woman was showing off to a friend the treasures of her home, including a neat sports car.

"I suppose your father got you that?" said the visitor.

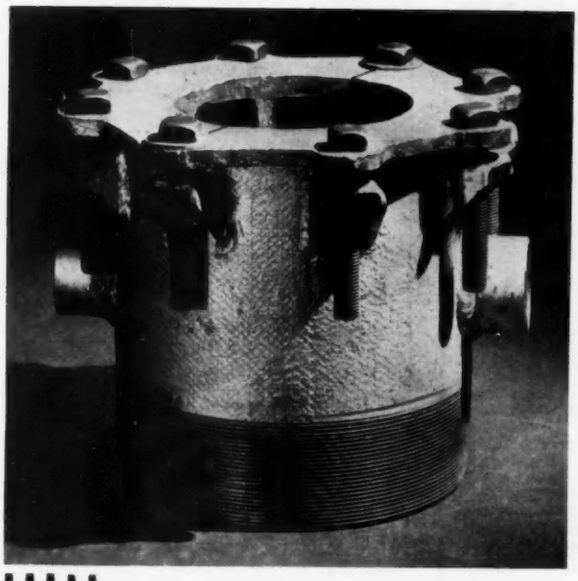
"Not likely," was the indignant reply; "George wouldn't accept such a thing. All that father pays for is the rent and the housekeeping expenses."

Two friends, one married and the other a bachelor, were at the latest play, admiring the performance of a famous actor.

"By jove," the married man murmured, "he's wonderful. The way he displays affection toward the leading lady, eh?"

"Yes—pretty good," the bachelor agreed, "but, you know he's been married to her for 18 years."

"What? Really married! Gosh—what an actor!"



PELCO Casing Head

If you keep an eye out for improved equipment and are not averse to economy, this PELCO welded Braden Head is your meat.

PELICAN WELL TOOL & SUPPLY CO.
Lake Charles — Converse — Many — Monroe
Houma — Kilgore — Willow Springs
SHREVEPORT, LOUISIANA

FOR SALE
·Equipment·

5-INCH O.D. CASING—Very attractive value: 3,250-ft., 5-in. O.D., 15-lb., 10thd Lapweld Casing and 2,250-ft., 5-in., 17-lb., 8thd. Seamless. This is all first class pipe in every respect. It has ample clearance to run in either 6⅝ inch O.D. or 7-inch O.D. Casing, or it can be used as first class oil string or for liner. Especially low price on any part of this lot of pipe which can be delivered to any territory promptly and at a material saving. Full information at any Bridgeport Store.

BOILER FEED PUMPS—6-in. x 4-in. x 6-in. H-500 "Lucey" Bull Dog Boiler Feed Pumps mounted on steel skids. In stock at Pampa and Houston. Price: $100 each. Various other sizes and types of completely rebuilt boiler feed pumps on hand at Wichita and other store stocks. Ask for price and specifications on the size you need.

CABLE TOOLS—We have one of the largest and most diversified stocks of new and used Cable Tools in the Mid-Continent. Whether you want to buy or rent; whether you want new, used or reconditioned equipment—it will pay you to contact our nearest branch store or call our Wichita Office. Many items are now being disposed of at special low prices.

40-H.P. PUMPING ENGINES—(Two) 40 H.P., "Weber" Gas Pumping Engines, 2-cycle, Type M, complete with fully enclosed Roller Bearing Reversible Clutches. Engines and Clutches have been completely overhauled in our shops and we guarantee them to be in excellent condition in every respect. Attractive price permits removal to any territory. On hand at Wichita.

SPECIAL—NEW 4½-INCH SEAMLESS—4000 feet of 4½-inch, 16-lb. Seamless Casing located at Shawnee, Okla. Brand new, never been run. In hands of one of our customers who didn't run it on account of not needing an extra string of pipe in the well he was drilling. Ready for immediate delivery. Phone Wichita Office for price.

7-INCH O.D. LAPWELD CASING—Several strings 7-inch O.D. (6⅝) 24-lb., and 26-lb., 10thd first grade Lapweld Casing ready for delivery from Kilgore yards. This pipe recovered from 2800-foot holes, 1200 to 1400 feet being removed from each hole. It has never stood in salt water—has been run only one time—and is excellent quality.

IDEAL DRAW WORKS—Practically new 7½-inch Roller Bearing Ideal Draw Works complete with Steel Jack Posts, Chain Guards, Header Boards and Regular Cathead. This has been overhauled in our shops. Now in Wichita. Will move anywhere.

DIESEL DRILLING ENGINE—90 H.P., 6-cylinder, Fairbanks-Morse Cable Tool Drilling Engine complete with roller bearing O.C.S. Clutch; portable air starting unit; light plant; steel fuel tank and all necessary equipment. Completely overhauled by us and guaranteed to be in first class condition and ready to go on the job. Will quote attractive delivered price to any locality.

ROTARY DRILLING BOILERS—(Three) 125-H.P., 300-lb. W.P. Kewanee Boilers complete with stacks and with Volcano Gas Burners. These boilers are in best of condition and will stand most rigid inspection. Very favorable price, F. O. B. Houston, Texas, yards.

(All items listed offered subject to prior sale)

WRITE OR WIRE OR PHONE STATION TO STATION

BRIDGEPORT
MACHINE COMPANY
WICHITA KANSAS
or any Bridgeport Store or Sales Office

Advertiser's Index

Abercrombie Pump Co. .....
American Askania Corp. 78
American Association of Petroleum Geologists .....
American Cable Co. .....
American Iron & Machine Works.....
American Roller Bearing Co. .....
American Steel & Wire Co. .....
B. K. Appleman .....
Ash Grove Lime and Portland Cement Co. .....
Athey Truss Wheel Co. .....
Atlas Glycerine Co. .....
Axelson Manufacturing Co. .....

Baash-Ross Tool Co. .....
Badgett Lubrication Corp. .....
Baldwin-Duckworth Chain Corp. .....
Baker Oil Tools, Inc. 11
Baroid Sales Co. .....
The Barrett Co. .....
William M. Barrett, Inc. .....
J. B. Beaird Corp. .....
Bowen Air Lines 60
Bradford Motor Works .....
Brauer Machine & Supply Co. .....
Breckenridge Chemical Co. .....
The Brewster Co. .....
Bridgeport Machine Co. 82
Broderick & Bascom Rope Co. .....
Burlington-Rock Island Railroad.....
Butler Manufacturing Co. .....
A. M. Byers Co. .....
Byron Jackson Co. .....

Cameron Iron Works .....
Caterpillar Tractor Co. .....
The Cavins Company .....
Central Power & Light Co. .....
Chain Belt Co. 29
Chemical Process Corp. .....
Clark Brothers Co. .....
Climax Engineering Co. .....
Continental Supply Co. .....
Fred E. Cooper Co. .....
Cooper Bessemer Corp. .....
The Corbett Corp. .....
W. H. Curtin & Co. .....

Darling Valve & Mfg. Co. .....
Dayton Rubber Mfg. Co. .....
Detroit Graphite Co. .....
Diamond Metal Co. .....
Dowell, Inc. .....

Eastman Well Survey Co. .....
E. H. Edwards Co. .....
Economy Electric Lantern Co. 68
Geo. H. Echols .....
Edwin H. Fitler Co. .....
Elliott Core Drilling Co. 23
Emsco Derrick & Equipment Co. .....

Ford Motor Co. .....
Fort Worth Laboratories 75
Frick-Reid Supply Co. .....

The Garlock Packing Co. .....
Gas Lift Engineering Co. .....
Gaso Pump & Burner Mfg. Co. .....
Gearench Manufacturing Co. .....
General Electric Co. .....
H. P. Gott Manufacturing Co. .....
B. F. Goodrich Rubber Co. .....
Gray Tool Co. 63
Gray Kerotest .....
The Guiberson Corp. .....
Gulf Publishing Co. 13
Gulf States Utilities Co. .....

Hall & Lowrey, Inc. 62
Halliburton Oil Well Cementing Co. ...
Hamilton Brothers 64
Hardway & Cathey 75
Haynes Stellite Co. .....
Hazard Wire Rope Co. .....
C. M. Heeter Sons Co. .....
Hercules Motors Corp. .....
The Hewitt-Kuster Co. .....
Hirsch, Susman & Westheimer..... 75
Houston Ready-Cut House Co. .....
Hughes Tool Co. .....Front Cover
Humble Oil & Refining Co. .....
Hyatt Roller Bearing Co. .....

Independent Exploration Co. 75
International Cement Corp. .....
International Derrick & Equipment Co..
International Harvester Co. .....
International Nickel Co. 65

Byron Jackson Co. .....
Jarecki Manufacturing Co. .....
W. P. Jenny .....
Jensen Brothers Manufacturing Co. ....
S. M. Jones Co. .....
Jones & Laughlin Steel Corp. .....

Kobe, Inc. .....
Kerotest Manufacturing Co. 40
Kibele Manufacturing Co. .....

Larkin Packer Co. 67
Layne & Bowler Co. .....
The Lane Wells Co. .....
Link Belt Co. .....
Ludlow Valve Manufacturing Co. 66
Lufkin Foundry & Machine Co. .....

MacClatchie Manufacturing Co. .....
Maloney Tank Mfg. Co. .....
Martin-Decker Corp. .....
F. G. Masquelette & Co. .....
J. H. McEvoy & Co. .....
Mengden & Sons Co. .....
Geo. S. Mepham Co. .....
Merchants Photo Service .....
Merco Nordstrom Valve Co. .....
Miller Sand Pump Co. .....
Mission Manufacturing Co. .....
Lee C. Moore & Co. 27
Muskogee Iron Works .....

The National Supply Co. 33
Norvell-Wilder Supply Co. ....Back Cover

Oil Center Tool Co. .....
Oil City Brass Works .....
The Oil Well Improvements Co. .....
Oil Well Supply Co. .....
Oklahoma Gas & Electric Co. .....
Operation Engineers, Inc. 75
Osage Metal Co. .....
Oster-Williams .....

The Parkersburg Rig & Reel Co. ..... Third Cover
Pelican Well Tool & Supply Co. 81
Hotel Pennsylvania 75
Petroleum Iron Works .....
Petroleum Rectifying Co. .....
Pittsburgh Equitable Meter Co.....
Pittsburgh Steel Co. 51
Portable Rig Co. .....

Raybestc - Manhattan, Inc. .....
Reed Roller Bit Co. 4
Republic Portland Cement Co. 20
Republic Steel Corp. .....
The Republic Rubber Co. .....
Ridge Tool Co. 22

Scandanavia Belting Co. .....
Shell Union Oil Corp. .....
SKF Industries, Inc. .....
South Chester Tube Co. 19
Southern Pacific Lines .....
Southwestern Machine & Supply Co. ....
Howard Smith Co. .....
E. M. Smith Co. .....
Sperry-Sun Well Surveying Co. 28
Jesse R. Stone and Lester B. Clark..... 75
Stone Oil-Tool Co. 75

Texas Electric Service Co. .....
Texas Iron Works .....
Texas Rubber & Specialty Corp. .....
Texas Power & Light Co. .....
Toledo Pipe Threating Machine Co. 69
Tretolite Co. .....Second Cover
Twin Disc Clutch Co. .....

United States Rubber Co. .....
Union Carbide & Carbon Corp. .....
Union Wire Rope Co. .....

The Vellumoid Co. .....

Waukesha Motor Co. .....
Western Pneumatic Co. .....
Wickwire-Spencer Steel Co. 39
Williamsport Wire Rope Co. 78
J. H. Williams & Co. .....
Wilson Supply Co. .....
WKM Co. .....
Wyatt Metal & Boiler Works .....

Youngstown Sheet & Tube Co. .....

1934 Index to The Oil Weekly

Specializing to the Producing and Pipe Line Branches of the Oil and Gas Industry

SUBJECTS COVERED IN INDEX

(Includes only the most important ones)

Page

Association Activities, Conventions, Expositions . . . . . VIII and IX

Authors Index . . . . .

Engineering, Technical, Research . . . . . II, III, IV and V

Engineering, Exploration II

Engineering, Drilling II

Engineering, Production . . . . . II, III and IV

Engineering, Motor Transport IV

Engineering, Miscellaneous IV

Engineering, Pipe Line IV

Natural Gas Production Engineering IV

Natural Gas Pipe Line Engineering . . . . . IV and V

Field Development and Exploration . . . . . IX, X and XI

Arkansas IX

California IX

Kansas IX

Louisiana IX

Michigan IX

Page

Mississippi IX

New Mexico IX

Oklahoma . . . . . IX and X

Rocky Mountain States X

Texas X

Foreign Technology and Development VIII

General Features—Important News . . V, VI, VII and VIII

Economic Features V

Code Provisions and Administrations VI

Editorials VII

Markets — Statistics VII

Legal, Legislation, Taxation, Investigations . . . VII

Pipe Line News VIII

Maps XI

Regular Weekly Features XI

Special Numbers XI

1934 THE OIL WEEKLY INDEX 1934

Engineering—Technical—Research

ENGINEERING—EXPLORATION

Geological and Geophysical

	Date	Page
Converse "Chemical Formations" Present Something New in Field Development. H. D. Easton	Jan. 8	14
Another Guess About Oil Possibilities in Florida. Edward A. Hill	Jan. 22	48
The North German Salt Dome Map. Dr. J. Brian Eby	Feb. 5	12
The Munich Tertiary Basin of Southern Bavaria	Feb. 12	16
Do Magnetometer Surveys Fail to Reveal Commercial Structures? W. P. Jenny	Mar. 12	16
Important Wildcatting Program Progressing in Northern Mexico. Brad Mills	Mar. 19	14
Geology of Increasing Value in Production Engineering. Warren L. Baker	Mar. 26	7
Geophysical Work Hindered by Geological Conditions in California. Brad Mills	May 21	22
Surface Geology of Northwest Part of Government Wells Producing District, Duval County. Richard A. Jones	July 30	23
Structural Trends on the Gulf Coast. Part I. W. P. Jenny	July 16	33
Structural Trends on the Gulf Coast. Part II. W. P. Jenny	July 23	23
The Sarnosa Oil Field—Its Geological Features and Development. Richard A. Jones	Nov. 5	55
Samfordyce, South Texas' Latest Major Possibility; a New Type Field. Earl S. Post	Nov. 12	68
Geological and Drilling History of Knight's Dome, South Australia. A. E. Knight	Dec. 24	35
Zwolle Has Been an Erratic But Remarkable Producing Area. Brad Mills	Dec. 24	63

ENGINEERING—DRILLING

Accident Prevention—Drilling

Changes in Hydrostatic Pressure Due to Withdrawing Drill Pipe from the Hole. George E. Cannon	April 23	21

Casing Practices

(Also see "Deep Drilling")

New Type Drive Pipe Effective in Overcoming Loose Surface Formations. Floyd Swindell	Mar. 12	19
Record Length String of Casing Is Landed and Cemented With Ease. H. H. King	July 30	8
Kettleman Hills Has Undergone Many Changes in Casing Programs	Aug. 13	25

Completion Methods

(See "Pressure Drilling")

Controlled Directional Drilling

Conroe Wild Crater Well Under Control. Brad Mills	Jan. 15	8
Controlled Directional Drilling Is Found to Have Practical Applications. Brad Mills	Aug. 20	31

Deep Drilling

(Also see "Casing Practices" and "Hookups—Rigs")

Binger Dome Showing Probable Important Oklahoma Deep Reserve. Floyd Swindell	Mar. 10	10
Deep Well Drilling Record of 11,377 Feet Possible Largely Due to Improved Technique	June 11	11
A Planned Program Among Others Is Important Factor in Deep Drilling. Brad Mills	Aug. 6	32
Roumanian Well Preparing to Test at 11,160 Feet	Sept. 24	34
Drilling Conditions Are Exceedingly Difficult in the Buckeye Field. Brad Mills	Oct. 22	27

Drilling Muds

(Also see "Heaving Shale Problems")

Drilling Progress Is Advanced by Definite Trend Toward Improved Muds. Brad Mills	Nov. 26	22

Drilling Operations—General

Braking With Electric Motors on Drilling and Pulling Equipment. W. C. Lane	July 2	25
Drilling-By Job of Interest Is Accomplished in Panhandle Lime. Frank W. Swift	July 2	21
Many Improvements Made in Gulf Coast Operating Methods	July 16	51
Southwest Texas Has Every Type of Drilling Condition. Charles P. Cartter	Sept. 10	22
Louisiana Coast's Easy Drilling Conditions Factor in Deep Play. Brad Mills	Dec. 10	16

Drilling Time Records

Graphic Records of Drilling Time Have Many Valuable Features. Frank W. Swift	Mar. 12	14

Equipment Care

Rotary Hose Care and Maintenance. A. D. Maclachlan	Oct. 1	23

Heaving Shale Problems

Scientific Research Needed to Solve Problem of Heaving Shale. Brad Mills	July 16	43
Heaving Shale Involves Chemical and Mechanical Drilling Methods. Brad Mills	July 23	18
Mechanics and Chemistry Involved in Heaving Shale Problem's Ultimate Solution. Brad Mills	July 30	27

Hook-Ups—Rigs

Important Wildcatting Program Progressing in Northern Mexico. Brad Mills	Mar. 19	14
Queer Drilling Rigs Are Used in Shallow South Texas Area. Earl S. Post	July 2	18
Latest Type Methods and Equipment Used on Kettleman Hills Drilling Rigs. Brad Mills	July 9	23
Light-Weight Rig Used on Gulf Coast Successfully for Semi-Deep Holes	Aug. 20	41
Drilling Outfit of Unique Design Carries Its Own Portable Camp. Earl S. Post	Aug. 27	20
Unusual Rig Hook-Up Uses Cellar as Site of Equipment. John C. Albright	Sept. 17	20
Rig Design Incorporating Special Features to Be Used for Deep Test	Sept. 24	23
An Orderly Drilling Rig Hookup Includes Interesting Boiler Arrangement. John C. Albright	Oct. 29	21
A Portable Generator Successfully Drives an Alternating-Current Rig. W. C. Lane	Dec. 17	29

Marine Drilling

Marshy Conditions at Lake Washington Require Unique Drilling Procedure. Brad Mills	May 7	21
Barges That Submerge in Shallow Louisiana Lakes Solve Swamp Drilling Problem. Brad Mills	June 11	22
Swampy Terrain Difficult Barriers Overcome by Novel Drilling Methods. Brad Mills	Sept. 24	20

Pressure Drilling

Pressure Completion of Wells in West Texas. E. V. Foran	April 23	15
Drilling Against High Rock Pressure in the Khaur Field, Punjab, India. C. E. Keep and H. L. Ward	Oct. 22	37

Straight-Hole Drilling

Methods of Correcting When Directional Survey Reveals Crooked Drilled Hole. Frank W. Swift	May 21	17

ENGINEERING—PRODUCTION

Acid Treatment

Acid Treatment of Michigan Oil Wells. K. A. Covell	May 28	17

Allocation of Production

(Also see "Conservation Engineering")

Essential Engineering Factors in the Allocation of Production. Fred E. Wood	Feb. 12	11
The Potential or Productivity Factor in Allocation of Production. R. B. Kelly	Feb. 19	26
Application of the Principle of Volumetric Withdrawal to the Allocation of Production. T. V. Moore	Feb. 26	24
Effect of Volumetric Withdrawal on Physical Waste at Oklahoma City. D. R. Knowlton	March 5	26
An Allocation Formula. H. D. Wilde, Jr.	March 12	20

Bottom-Hole Pressures

East Texas Production. C. E. Reistle, Jr.	Feb. 26	14
Pressure Determination in Flowing Oil Wells. Floyd Swindell	March 5	20

Engineering—Technical—Research—(Continued)

Engineering—Production (Continued)

	Date	Page
Variations in Reservoir Pressure in the East Texas Fields . . .. Ralph J. Schilthuis and William Hurst	Oct. 15	24
Energy Relationship in the Oil Bearing Formation..... Jan Versluys	Oct. 15	38
Effect of Different Production Rates on Pressure Distribution in East Texas..... C. E. Reistle, Jr.	Nov. 26	26

Completion Methods

(Also see "Pressure Drilling")

Screen and Packer Practices in the Gulf Coast Show Advancement ..... Brad Mills	Nov. 5	19

Conservation Engineering

(Also see "Gas Utilization in Production of Oil")

The Effect of Curtailment on Ultimate Recovery..... T. V. Moore	Nov. 19	27
Acreage and Sand Thickness as Factors in Proration.. M. Albertson	Nov. 19	33
Some Basic Problems in the Conservation and Future Production of Pennsylvania Grade Crude Oil..... Edward Steidle	June 18	22
Opening Shut-In Properties.....	Aug. 6	22
Three-Year Shut In of Depleted Shallow Wells Raises Fluid Level ..... Brad Mills	Oct. 8	26

Corrosion—Production Equipment

Corrosion Fatigue and Protective Coatings..... F. N. Speller and I. B. McCorkle	Jan. 1	16
Combatting Corrosion of Production Equipment..... Stanley Gill	Jan. 22	12

Flowing Wells Naturally

(Also see "Gas Utilization in the Production of Oil" and "Bottom-Hole Pressures")

East Texas Field Shows Conservation is Beneficial to Well Flowing Life..... Brad Mills	June 25	22
Government Wells Producing Problems Are Overcome by Operating Practice..... Jack Trenchard and J. Barney Whisenant	June 11	16
Flowing Wells Naturally..... W. J. Crites	Nov. 12	41

Gas-Lift Practices

Producing Oil by Flowing Methods, Part I..... S. F. Shaw	April 2	20
Producing Oil by Flowing Methods, Part II..... S. F. Shaw	April 9	20
Air-Lifting Oil to Advantage of Existing Pressure in East Texas ..... S. F. Shaw	July 9	19
Modified Gas Lift is Proving Successful in East Texas... Brad Mills	Oct. 1	19
Compressor Equipment Cost for Gas-Lifting in Mid-Continent Depends on Conditions..... S. F. Shaw	Oct. 8	21
Influence of Casing Sizes on Production of Oil..... S. F. Shaw	Nov. 12	35
System of Manifolding Permits Control of Gas-Lift Operations ..... John C. Albright	Dec. 10	24
Stage Lifting Applied in Oklahoma City Field to Gas-Lift Operations ..... Floyd Swindell	Dec. 17	19

Gas Utilization in the Production of Oil

(Also see "Bottom-Hole Pressures" and "Flowing Wells Naturally")

Efficient Utilization of Reservoir Energy..... Joseph B. Umpleby	March 5	22
Efficiency of Flowing Wells..... Cecil J. May	Oct. 15	13
Some Economic Aspects of Gas Solubility Investigations. Alexander B. Morris	Oct. 15	30
North Dome Results Show Benefits of Intelligent Regulation ..... Wallace Sawdon	July 2	24
High Gas Ratio in Greta Field Reduced by Simple Control Method ..... Earl S. Post	July 9	17
Effect of Gas Liberation Upon the Properties of Crude Oil ..... D. L. Katz	Oct. 22	19

Lease Layout

Efficiency and Safety Mark Clay Creek Field Operations ..... Jack Logan	June 11	25

Metallurgy

Properties of Nickel Alloy Cast Irons and Their Special Applications in Petroleum Production Equipment ..... O. B. J. Fraser and J. S. Vanick	May 28	32

Production Equipment Records

	Date	Page
(Also see "Pumping Developments")		
Reduction of Lifting Costs Through Close Inspection of Production and Equipment Records..... C. L. Moore and H. S. Stark	June 4	20
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Part I..... I. F. Bingham	Nov. 26	15
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Part II..... I. F. Bingham	Dec. 3	24
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Part III..... I. F. Bingham	Dec. 10	30
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Part IV..... I. F. Bingham	Dec. 17	22
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Part V..... I. F. Bingham	Dec. 24	22

Production—General

The Trend in Petroleum Technology..... Stanley Herold	June 11	5
The Trend in Petroleum Technology..... Stanley Herold	July 2	17
The Trend in Petroleum Technology..... Stanley Herold	July 23	17
The Trend in Petroleum Technology..... Stanley Herold	Aug. 6	19
The Trend in Petroleum Technology..... Stanley Herold	Sept. 3	19
The Trend in Petroleum Technology..... Stanley Herold	Sept. 24	19
The Trend in Petroleum Technology..... Stanley Herold	Oct. 29	19
The Trend in Petroleum Technology..... Stanley Herold	Dec. 3	17
The Trend in Petroleum Technology ..... Stanley Herold	Dec. 31	19
Production Problems Reviewed at A.P.I. Mid-Year Meeting ..... Warren L. Baker	May 28	9
Southwest Texas Fields Have Varied Production Problems ..... Earl S. Post	Sept. 10	29
Locating Water Sources in Oil Well by Electrical Methods ..... Brad Mills	Sept. 3	24
Methods Used for Lifting Oil in Germany..... Kurt A. Schuette	Nov. 26	35
Possible Future Production Methods in Oklahoma City Field, Part I..... Herbert F. Beardmore and H. O. Harder	Feb. 19	15
Possible Future Production Methods in Oklahoma City Field, Part II..... Herbert F. Beardmore and H. O. Harder	Feb. 26	20
Care and Operation of Small Oil Wells East of the Mississippi..... Herman J. Little	May 28	29

Pumping Developments

(Also see "Pumping Equipment Records")

Oklahoma City Operators Face Many and Varied Oil-Lifting Problems ..... Brad Mills	Mar. 26	19
Oklahoma City Wells Serviced Completely by Heavy-Duty Pumping Installation..... Warren L. Baker	May 21	20
Oklahoma Installations Show Oil May Be Lifted by Pumping Methods ..... Brad Mills	June 18	17
East Texas Field Operators Are Using Various Pumping Methods ..... Brad Mills	July 2	19
Deep Well Pumping..... E. P. Trout	July 9	25
Large Size Gearmotor Applied for First Time On Deep Pumping Wells..... W. C. Lane	Aug. 27	34
Improved Methods and Equipment Meet Conditions in Deep Pumping..... Brad Mills	Sept. 3	20
Revised Pumping Methods Overcome Problems and Increase Lease Efficiency..... Earl S. Post	Oct. 22	34
Stripper Wells Operated by Small Gas-Electric Unit... W. C. Lane	Nov. 5	22
Central Power Design in Panhandle Must Allow for Rugged Terrain ..... John C. Albright	Nov. 5	24
Squirrel-Cage Motors—Types Used for Pumping Oil Wells ..... W. C. Lane	Dec. 3	19
Stripper Well Property is Made Profitable Through Operating Economies ..... Floyd Swindell	Sept. 3	22
Electrical Pumping Progress in Kansas and Oklahoma.. G. H. Weckel	Dec. 24	19

Reconditioning Wells

Reconditioning Wells in the Oklahoma City Field..... J. M. Hewgley and J. P. Stephens	Feb. 19	21
Cleaning Out Oklahoma City Wells With Gas Pressure. James O. Lewis	Sept. 17	24

Engineering—Technical—Research—(Continued)

Engineering—Production (Continued)

Repressuring

Advantages of Unitization in Repressuring — Feb. 19 — 19
James O. Lewis

Lenticular Sands in Gulf Coast Fields Are Repressured Successfully — April 9 — 17
Warren L. Baker

Deep Zone at East Hackberry Taking Gas Successfully in Repressuring — April 13 — 30

Increased Recovery by Applying Air and Gas Pressure to Oil Sands — June 4 — 15
C. C. Hogg

Experimental Data on Laboratory Oxidation of Crude Oils With Particular Reference to Air Repressuring — June 25 — 15
Sam S. Taylor and H. M. Smith

Northeast Kansas Pool Shows Value of Repressuring Shallow Property — Sept. 17 — 27
C. E. Morris

Back Pressure is Held on Northeast Kansas Wells When Repressuring — Oct. 1 — 22
C. E. Morris

Repressuring Without Channeling is Obtainable With Control Method — Nov. 19 — 35
C. E. Morris

Repressuring Experiment in Bourbon County, Kansas, Is Interesting — Dec. 10 — 21
C. I. Layton

Back Pressure Proves Channeling Preventive During Repressuring — Dec. 31 — 28
C. E. Morris

Research Production

Recovery of Oil From Depleted Sands by Means of Dry Steam — Aug. 13 — 17
Smith L. Stovall

Treating Cut Oil

Big Lak Oil Company Has Efficient Treating Plant — July 9 — 29
John C. Albright

Union Oil Company's System of Treating Cut Oil at Santa Fe Springs — Dec. 31 — 20
John C. Albright

Unit Operation

Advantages of Unitization in Repressuring — Feb. 19 — 19
James O. Lewis

Buckeye Unit Plan Overcomes Handicap of Townsite Subdivision — July 23 — 25
Earl S. Post

Unitization Proves Itself — July 30 — 19
Vance Rowe

Kettleman Hills is United States' Outstanding Example of Unit Operation — Aug. 27 — 31
Brad Mills

Well Spacing

The Well Spacing Problem — May 28 — 43
John R. Suman

ENGINEERING—MOTOR TRANSPORT

Human Element is the Cause of Most Automobile Accidents — Aug. 27 — 28
Floyd Swindell

100,000 Mile Club Gets Hearty Cooperation in Reducing Automobile Costs — Aug. 27 — 25
R. F. Pike

Motor Transports in the Oil Fields — Aug. 27 — 15

Field Car for Testing Gas Incorporates Unusual Features — Aug. 27 — 26
Frank B. Taylor, Jr.

ENGINEERING—MISCELLANEOUS

Vocational Training

Vocational Training in the Oil Industry — Feb. 19 — 23
L. K. Covelle

Development of Technical Education for the Petroleum Industry — June 11 — 29
H. C. George

Company Employees Receive Benefit From Well-Planned Vocational Training Course — July 9 — 42

The Empire Companies Has Successful Employee Vocational Training School — Nov. 12 — 26
Floyd Swindell

Miscellaneous

Piston Rings — Dec. 31 — 24
J. H. Ballard, S. Nixon and N. A. Moore

Spindletop Contributed Much in Equipment to Early Engineering — Dec. 31 — 30
Brad Mills

ENGINEERING—PIPE LINE

(Also see "Natural Gas Pipe Line Engineering")

Bridges, Pipe Lines

Pipe Line Bridge is Built in Rapid Time at Low Cost — Sept. 17 — 31
Earl S. Post

Pipe Line Bridge Recently Built Featured by Construction Design — Sept. 24 — 31
Floyd Swindell

Construction, General

Creosoted Piles, Test Show, Are Not Harmed by Marsh Fires — July 2 — 31

Construction Records Are Made on South Texas Brine Line — June 18 — 27
C. A. Harwick

Construction Design

Formulas for Designing Natural Gas Pipe Line Systems Consisting of Parallel Lines — July 30 — 31
T. W. Johnson and W. B. Berwald

Construction Welding

Pipe Line Completed by Arc Welding Without Backing-Up Rings — Oct. 1 — 33
A. F. Davis

Welding the Iraq Pipe Line — Oct. 22 — 35
William Shack

Construction Submarine Lines

El Segundo Marine Loading Line Laid in Half-Mile Sections — Mar. 19 — 33
W. E. Archer

Submarine Pipe Line Being Laid in Bahrein is Three Miles Long — July 9 — 31

Compressor Station

Dual Metering System Handles Wide Range of Volume at Compressor Station — Nov. 26 — 31
John C. Albright

Compressor Station Problems — Nov. 5 — 29
B. R. Bay

Operating Methods

Panhandle Crude Requires Special Care in Operation of Pipe Lines — Oct. 8 — 31
John C. Albright

Correlating Comparison of Chart Interpretations — Dec. 10 — 35
Frank B. Taylor, Jr.

Operation—General

Convenient Roll Type Map of Pine Line Route Proves Advantageous — April 2 — 25
Frank B. Taylor, Jr.

Fluid Flow

A. S. M. E. Committee Directs Important Study of Fluid Flow in Pipe Lines — April 3 — 23

Corrosion Problems

Committee Inspects Pipe Coating Specimens Buried Four Years Ago — July 2 — 33

Internal Corrosion of Natural Gas Pipe Lines — Oct 29 — 25
Elmer F. Schmidt and Thomas S. Bacon

Removal of Small Quantities of Hydrogen Sulfide From Gas — Dec. 24 — 31
John C. Albright

Reconditioning

Reconditioning Work Modernizes Old Stanolind Pipe Line System — July 23 — 29
Floyd Swindell

Safe Welding Repair of Crude Oil Pipe Line — April 2 — 26

NATURAL GAS PRODUCTION ENGINEERING

Gauging Wells

Gauging Gas Well Capacities Accurately Without Waste of Gas — June 4 — 27
E. C. McAnich

Proration Methods

Three Factors Enter Into Equitable Gas Flow Proration — Mar. 19 — 29
Allen H. Burgess

Pressure Reduction

High-Pressure Gas is Handled by Special Reduction System — Dec. 3 — 33
Brad Mills

Freezing

Freezing Condition in Carbon Dioxide Gas Well Is Overcome — Sept. 24 — 27
John C. Albright

Bottom-Hole Chokes Overcome Producing Trouble In Gas Wells — Sept. 17 — 17
Brad Mills

Testing

Field Car for Testing Gas Incorporates Unusual Features — Aug. 27 — 26
Frank B. Taylor, Jr.

Property Operation

Acid Treatment Proves Beneficial to North Louisiana Gas Wells — Oct. 29 — 31
Waldo W. Moore

Care and Operation of Small Gas Wells East of the Mississippi River — May 28 — 23
J. H. Newlon

NATURAL GAS PIPE LINE ENGINEERING

(Also see "Engineering—Pipe Line")

Compressor Stations

Compressor Station Problems — Nov. 5 — 29
B. R. Bay

Dual Metering System Handles Wide Range of Volume at Compressor Station — Nov. 26 — 31
John C. Albright

Engineering—Technical—Research—(Continued)

Natural Gas Pipe Line Engineering (Continued)

Corrosion—Pipe Lines

	Date	Page
Internal Corrosion of Natural Gas Pipe Lines. Elmer F. Schmidt and Thomas S. Bacon	Oct. 29	25
Traces of Hydrogen Sulfide in Natural Gas Lines Causes Corrosion	April 2	46
Removal of Small Quantities of Hydrogen Sulfide from Gas. John C. Albright	Dec. 24	31

Design—Pipe Lines

Formulas for Designing Natural Gas Pipe Line Systems Consisting of Parallel Lines. T. W. Johnson and W. B. Berwald	July 30	31

Metering

	Date	Page
Training and Functions of a Field Meter Man. E. E. Stovall	June 11	31
Calculation of Orifice Coefficients, Part I. Max K. Watson	June 18	29
Calculation of Orifice Coefficients, Part II. Max K. Watson	June 25	27
Maintenance and Testing to Eliminate Inaccurate Measurement of Orifice Meters. Frank B. Taylor, Jr.	Oct. 1	27
Correlating Comparison of Chart Interpretations. Frank B. Taylor, Jr.	Dec. 10	35

General Features—Important News

ECONOMIC FEATURES

(Also See "Foreign Features, Crude Reserves")

Crude Reserves

	Date	Page
Proration and Unrestricted Wildcatting. Evan Just	March 5	14
Should Prospecting for Additional Oil Reserve Be Curtailed? S. F. Shaw	March 12	11
Discoveries Required to Maintain Status of Production in Oklahoma, Part I. Robert H. Dott	April 30	15
Discoveries Required to Maintain Status of Production in Oklahoma, Part II. Robert H. Dott	May 7	14
Discoveries Required to Maintain Status of Production in Oklahoma, Part III. Robert H. Dott	May 14	15
Texas-Louisiana Gulf Coast and the Nation's Crude Oil Reserves. Alexander Deussen	July 16	22
New Supplies and Reserves to Meet Consumption Demands Must Be Found. Dorsey Hager	Sept. 3	14
Deeper Drilling a Definite Trend That Presages Vast New Crude Oil Reserves	June 18	14
California Needs New Fields and Has Nothing in Sight	Oct. 22	70
Crude Reserves Are Below Future Demand Requirements in California. Brad Mills	Dec. 17	13

Gas Reserves

Long Lake Field Indicated to be Important Gas Reserve. Jack Logan	May 21	25
Texas Panhandle May Have 20 Years More of Producing Life. John C. Albright	Aug. 13	31

Economic Features, General

Reduced Motor Transport Cost as Way Out of Depression. J. B. Aug. Kessler	Jan. 1	30
Oklahoma-Kansas Conditions Show Benefits of Federal Control. Floyd R. Swindell	Jan. 29	14
Facts and the Figures. Grady Triplett	Jan. 29	28
The Code and the Courts. Jack Logan	Feb. 26	7
"Hot" Oil Still Disturbing. Jack Logan	Mar. 5	7
Today's Picture in Oil. Jack Logan	Mar. 12	7
Oil and the Recovery Program. Jack Logan	Mar. 19	7
The New Era for Oil. Jack Logan	Mar. 26	16
The Week's Picture in Oil.	April 2	7
The Week's Picture in Oil. Jack Logan	April 9	7
The Week's Picture in Oil. Jack Logan	April 16	9
The Week's Picture in Oil. Jack Logan	April 23	7
Summing Up the Week. Jack Logan.	April 30	10
Oil and Government Control. Jack Logan	May 7	9
Ickes Bill Dominates Oil Scene. Jack Logan	May 14	9
Oil in Congress and On the Market. Jack Logan	May 21	7
Code Case and Oil Bill in Limelight. Jack Logan	May 28	6
Oil Outlook Generally Favorable. Jack Logan	June 4	6
Oil Control Continues Effective. Jack Logan	June 11	6
Oil Reacts to General Conditions. Jack Logan	June 18	16
Oil Bill Dead But Issue Still Alive. Jack Logan	June 25	14
Industrial Codes and the Purchasing Department. W. R. Kubista	June 25	30
Efforts Renewed to Control Industry. Warren L. Baker	July 2	7
Industry Still Needs Stabilization. Warren L. Baker.	July 9	7
Effect of Market Price of Crude Oil on the Economic Limit of Stripper Wells. John M. Houchins and I. F. Bingham	July 9	15
Higher Gravity Gulf Coast Crudes Found with Deeper Production. Brad Mills	July 16	27
Oil Investigations Multiply. Jack Logan	July 23	7
The Oil Business is Now Honest with Itself. Dorsey Hager	July 23	12
The Next Five Months. Jack Logan	July 30	6
The Outlook Favorable. Jack Logan	Aug. 6	7
New Taxes vs. "Hot" Oil. Jack Logan	Aug. 13	7
Decline of Oil Exports Changes California Marketing Conditions. Brad Mills	Aug. 13	13
Ominous Weeks Ahead. Jack Logan	Aug. 27	7
Industry Hesitates When Government is Undecided. Axtel J. Byles	Aug. 27	10
"Hot Oil Blocks International Stabilization". Sir Henri Deterding	Aug. 27	12
Bureaucracy Loses Ground. Jack Logan	Sept. 3	7
Critical Fights in Congress Loom. Jack Logan	Sept. 10	9
Opposition to Additional Federal Oil Control Growing	Sept. 10	11
The Coming Shortage of Oil. Jack Logan	Sept. 17	9
New Law Strongly Opposed. Jack Logan	Sept. 24	9
East Texas, the Unruly. Jack Logan	Oct. 1	7
East Texas Has a Birthday. Jack Logan	Oct. 8	7
The Hot Oil Imbroglio. Jack Logan	Oct. 22	11
Maneuvers on the Hot Oil Front. Jack Logan	Oct. 29	6
Stability Appears Only Temporary. Jack Logan	Nov. 5	7
Prospects Unusually Favorable. Jack Logan	Nov. 12	7
A Year of Profits. Jack Logan	Nov. 12	11
Clashing Views on Federal Control. Jack Logan	Nov. 19	7
Unusual Stability Prevails. Jack Logan	Nov. 26	7
A Brief Accounting Note on Pensions for Oil Company Employees. Edwin C. McDonald	Nov. 26	50
Outlook Moderately Promising. Jack Logan	Dec. 3	7
Oil Control Becomes Stricter. Jack Logan	Dec. 17	7
Earnings On Upward Trend. Jack Logan	Dec. 24	9
Year-End Statements by American Petroleum Institute Officials	Dec. 31	12
Statistical Position Greatly Improved. Axtell J. Byles	Dec. 31	12
Industry Needs Relief from Burdensome Taxes. Baird H. Markham	Dec. 31	12
Control Cause Gains Ground. Jack Logan	Dec. 31	7
Better Conditions of Past Year Largely Due to Tender Board	Dec. 31	12

General Features—Important News—(Continued)

Production Control

	Date	Page
Texas Panhandle Producers, Land Owners Alarmed Over Gas Waste.	Feb. 5	8
Oklahoma City Proration Regulations Modified.	Feb. 5	10
No Danger of Flood of Oil From Texas, Says Commission	Feb. 26	41
Balancing Supply and Demand in the Petroleum Industry. Joseph E. Pogue	Feb. 26	43
Plan Orderly Proration of Jal Field Production.	March 5	72
East Texas Refiners Take Steps to End Gas Wars.	March 12	49
Market, Not Potential, Sets Allocation Rate.	March 12	76
Texas Commission Issues Drastic Production Order Under New Laws.	March 19	9
East Texas Refinery Owners to Consider Crude Supply Offers.	March 26	9
Texas Officials Pledge Mass Meeting More Efficient Regulation. H. H. King	April 2	35
Texas Commission Issues Drastic Orders for Rigid Production Control. R. W. Byram	April 9	9
Stricter Proration Enforcement is Applied to East Texas Field.	April 9	33
Parker in Charge of East Texas Enforcement With Full Powers.	April 9	30
California Refiners Create New Agency to End Price War.	April 23	9
Texas Commission Strengthens its Enforcement Program.	April 23	12
Equipment Makers Could Help Control Racketeers. Geo. A. Hill, Jr.	April 23	38
East Texas Situation Becomes Acute as Violations Increase.	June 18	7
Commission Shake-up Seen as Weakening Texas Enforcement.	June 25	7
Seven Members Resign From Texas Petroleum Council.	July 9	12
Bankers Join Fight to Curb "Hot" Oil Production.	July 16	144
Commission Strengthens Its Oil Control in East Texas.	Aug. 13	9
Texas Commission Obtains Injunctions and Rewrites Hot Oil Orders	Sept. 3	9
Tender Act Receives Governor's Signature.	Oct. 1	9
Commission Threatens to Withdraw Pipe Line Permits.	Oct. 1	16
Well Connections Revoked if Reports Not Filed.	Oct. 1	16
Tenders Required by Texas Commission on All Products.	Dec. 10	9
Hot Oil Runs Up Before State Shipping Ban Effective.	Dec. 10	9

Proration Orders—Allocation

New Order Reduces Texas Allowable 4,000 Barrels.	Jan. 1	27
Oklahoma Order Sets Production at Federal Figure.	Jan. 1	27
East Texas, Gulf Coast Get Hike in Output Allowable.	Jan. 15	17
Texas Allowable Figure Increased Slightly Above Federal Allocation.	Jan. 22	9
Texas Allowable Above Federal Board Allocation.	Jan. 29	10
Commission Raises Allowable in Panhandle 10,000 Daily.	Feb. 12	47
Oklahoma February Allowable Above Washington Figure.	Feb. 19	44
Michigan Prorated Output at 25 Percent of Potential.	Feb. 19	78
Texas Commission Holds State Output Below Federal Allocation.	Feb. 26	9
Federal Allocation of Production Set at 2,282,800 Barrels in March.	Feb. 26	9
Texas Allowable Order Boosts State Output Above 975,000 Barrels.	March 19	12
Federal Administration Raises Crude Allocations.	March 26	8
Oklahoma Commission Sets Figures for April Allowable.	April 9	35
Kansas Allowable Set Above Federal Figure.	April 9	36
Federal Allocation Increased 162,100 Barrels for June.	May 28	12
Texas Commission Fixes Allowable for State Above Federal Allocation.	June 4	9
East Texas Allowable Cut 50,000 Barrels Following State Hearing.	July 2	11
Texas Allowable Given Boost When Several Districts Get Increases.	July 16	18
August Federal Allocation Cut 81,000 Barrels Under July.	July 23	11
Allowable for October Reduced 15,900 Barrels.	Oct. 1	40
Texas Allowable Cut 77,907 Barrels for October.	Oct. 1	46
Federal Crude Allowable Is Raised 153,000 Barrels.	Dec. 24	12
Texas State Allowable Raised 60,480 Barrels.	Dec. 24	40

CODE PROVISIONS AND ADMINISTRATIONS

(Also See "Legal, Legislation, Taxation, Investigations" and "Production Control")

Code Changes Designed to Eliminate Unfair Practice in Well Drilling.	Jan. 1	7
Washington Pleased With Efforts of Oil Code Enforcement in Texas.	Jan. 1	7
Crude Recovery Costs Asked in Questionnaire to All Producers	Jan. 1	8
New Pool Development Will Have Supervision of Oil Administrator	Jan. 1	9
Washington Gives Details of Demand for Texas Crude.	Jan 1	25
Enjoin Violators of Proration Regulations in East Texas.	Jan. 15	7
Code Sub-Committee Named to Handle Contract Drilling Problems.	Feb. 12	24
Committee Approves Ickes Plan to Control Output by More Oil Taxes	Feb. 12	7
Federal Oil Taxes Designed to Help Enforce Proration Rules.	Feb. 19	8
Suits Filed to Rush Oil Code Ruling by U. S. Supreme Court.	Feb. 19	8
Government Plans Appeal From Adverse Oil Decision in Texas	Feb. 19	10
Senate Approves Administration Bill Fixing Tax for Oil Control.	Mar. 26	8
California Companies Face Code Indictments in Federal Court.	April 2	9
Labor Board at Wide Variance With Coordination Committee	April 23	9
Industry Cooperation Urged in Behalf of Equipment Code W. L. Childs	April 30	34
Oklahoma Committee Submits Drilling Costs	May 7	40
Oil Control Bill Is Tabled; Propose Federal Investigation.	June 18	7
Review Board Recommends Pipe Line Divorcement and Federal Control. Bertram F. Linz	June 18	9
Industrial Codes and the Purchasing Departments. W. R. Kubista	June 25	30
Protests Overruled on Labor Order Retroactive Provisions.	Oct. 1	45
Texas Fund Shortage Invites Federal Control in East Texas.	Jan. 8	7
Federal Price Fixing Delayed by Ickes for Further Study of Plan.	Jan. 8	8
Ickes Investigating Charge Hot Oil Encouraged by Bank Interests.	Jan. 15	7
New Fields Must Comply With Federal Regulations.	Jan. 15	32
Petroleum Council Plans Aggressive Action Against Texas Violators.	Jan. 22	7
Committee Ironing Out Differences on Approved Gasoline Control Pacts.	Jan. 29	9
Franklin Reviews Advantage to Industry of Code Workings.	Jan. 29	9
Evasions Responsible for Code Change Tightening Regulation of Withdrawals.	Feb. 12	9
Revised Copies of Pooling Agreements Being Signed.	Feb. 19	36
"Full Conservation" Dominates Ickes Policy on New Fields.	Mar. 12	9
Plan Offered to Stop "Hot" Oil and Aid Small Refiners.	Mar. 19	55
Consolidated Plan Offered by Ickes for Control of Gasoline Production.	April 9	9
Board Hears Criticism of Oil Code Workings From Independents.	April 9	11
Recovery Review Board Completes Investigation of Code Complaints.	April 16	10
Ickes Order Designed to Check Movement of Oil in Tankers.	April 16	10
Recovery Review Board to Suspend Hearings; May be Dissolved.	April 16	12
Refinery Control Plan Approved by Ickes; Planning and Coordination Committee Expanded.	April 30	8
Refinery Section of Code Rewritten.	April 30	8
Planning and Coordination Committee Members.	April 30	9
Texas Divided Into Ten Conservation Districts.	May 7	52
Administrator Reviews Federal Control and Makes Plea for Support of Control Bill. Harold L. Ickes	M 21	11
Internal Revenue Bill Now is Basis for Federal Oil Control.	June 25	9
Stricter Federal Oil Control Looms as Result of New Program.	July 2	9
Revenue Regulations Expected to Solve Many Control Problems	July 2	9
Ickes Reviews Year Under Oil Code; Says Control Big Money Maker.	July 16	12
New Code Interpretations Solve Several Problems.	July 30	12
"Hot" Oil Regulations Revised.	July 30	14
Text of New Federal Production Regulations.	July 30	15
Movement of "Hot" Oil is Retarded by Shipment Curb.	Aug. 13	9
New Regulations to Control Hot Oil Placed in Effect.	Aug. 20	9
Regulations Issued by Revenue Department on Federal Crude Tax.	Sept. 17	11
Official Definition Given by Code Board for Stripper Wells.	Sept. 17	12
Tenders Required by New Proration Bill to Curb East Texas Output.	Sept. 24	12
Orderly Development Clause of Oil Code is Ruled Invalid.	Oct. 1	9
Ickes Bitterly Attacks Industry's Cooperation.	Oct. 1	47
Federal Approved Tenders to be Required on East Texas Shipments. Bertram F. Linz	Oct. 22	9
Federal Tender Order.	Oct. 22	47
Text of Ickes' Address Before A. P. I.	Nov. 19	17
Interstate Compact Not Approved at Governors Meeting and Seems Remote	Dec. 10	12
Independents Want Compacts Aided by Limited Federal Control	Dec. 10	40
Code Committee Tells Investigators It Favors Federal Control	Dec. 24	12
Ickes Says Public Utility Is Effective Control Method.	Dec. 24	11

EDITORIALS

(Also See "Economic—Features, General")

What of Reserves? R. L. Dudley	Jan. 29	7
All Right Mr. Commissioner! R. L. Dudley	June 18	5
And Now, Mr. Ickes. R. L. Dudley	June 18	6
The Congressional Investigation. R. L. Dudley	July 23	5
Price Cut? Who Knows? R. L. Dudley	Oct. 22	7
Some Comments on Ickes' Speech. R. L. Dudley	Nov. 19	5

General Features—Important News—(Continued)

MARKETS—STATISTICS

Markets	Date	Page
East Texas Hot Oil Ruining Gasoline Market	Jan. 15	32
East Texas Hot Oil Output Reduced Half During Week	Jan. 22	24
Distressed East Texas Gasoline Breaks State Market	Feb. 26	49
Market Improves With Strict Control in East Texas Field	April 16	133
Mid-Continent Has Best Market Week of Year	April 16	134
Effect of Market Price of Crude Oil On the Economic Limit of Stripper Wells. John M. Houchins and I. F. Bingham	July 9	15
California Shut-In Production Opened to Supply Market	July 16	169
Decline of Oil Exports Changes California's Marketing Conditions. Brad Mills	Aug. 13	13
Oil Exports From U. S. Total $19,122,630 in June	Sept. 3	33
Statistical Review of Code's First Year Show Benefits	Sept. 10	10
Ickes Sees Progress Under Code But Wants More Legislation	Sept. 10	10
Petroleum Industry During Past Year Has Made Surprisingly Good Progress	Sept. 10	13
Plan for Buying Gasoline on National Scale Approved	Sept. 17	13
Inventory Time Promotes Lower Demand and Price	Dec. 24	39
Markets Become Stronger as Control Plans Succeed	Dec. 31	35

Statistics

Improvement Shown in Bureau of Mines Report	Jan. 15	18
Domestic Production Totals 895,973,000 Barrels in 1933	Jan. 1	10
Total California Stocks Drop Sharply During Year	Jan. 1	31
Balanced Output and Increased Drilling Forecast for 1934	Jan. 29	12
United States Crude Oil Production by States and Districts	Jan. 29	31
Annual Field Statistical Review—1933	Jan. 29	43
Upward Turn of Demand for Oil Features 1933 Record	Feb. 12	30
January Figures Reflect Stabilized Oil Industry	Feb. 12	31
Unfavorable Results During February in Oil Industry	Mar. 5	10
California Shipped More East During 1933	Mar. 5	11
Adverse Influences Counteract Favorable Statistics in March	April 2	10
Benefit of Better Demand Shown by Bureau for January	April 2	14
Increase Demand for Oils Revealed in Bureau Report	April 16	18
Drilling Increases in April As Statistical Situation Improves	May 7	26
Continued Favorable Demand Indicated in Bureau Report	May 21	32
May Drilling At Four-Year Peak; Conditions Generate Optimism	June 4	14
Bureau April Report Shows Better Demand and Prices	June 18	38
Statistics for Half of 1934 Show Improved Conditions. Wm. V. Gross	July 16	8
Michigan Half Year Production Sets Record	July 16	145
Production Control Effective in July and Drilling Higher	Aug. 6	9
U. S. Bureau of Mines Figures Show Trend Favorable in July	Sept. 17	37
Further Statistical Gains Made During September	Oct. 8	12
U. S. Crude Exports for Eight Months 26,664,485 Barrels	Oct. 29	35
October Statistics Indicate Market Weakness Not Justified	Nov. 5	14
Favorable Factors Revealed by Bureau of Mines Report	Nov. 12	14
World Production of Petroleum and Allied Products Above 1929 Figure. V. R. Garfias and R. V. Whetsel	Nov. 12	25
Industry's Statistical Position Further Improved During November	Dec. 10	14
Prices Not in Line With Favorable October Statistics	Dec. 17	34

LEGAL, LEGISLATION, TAXATION, INVESTIGATIONS

(Also see "Code Provisions and Administration" and "Production Control.")

Federal

Hutcheson Interprets Constitution as Safety Valve in March of Progress. Jos. C. Hutcheson, Jr.	Jan. 1	14
Changes Proposed in Depletion Clause of Income Tax Law. Floyd Swindell	Jan. 15	19
Drilling Expense Held Capital Investment	Jan. 15	32
Opposite Effects Tend to Equalize Federal Court Decisions. Jack Logan	Feb. 19	9
Government Plans Appeal From Adverse Oil Decision in Texas	Feb. 19	10
Ickes Sees Texas Court Ruling as "Temporary Setback"	Feb. 26	40
Connally Champions Tax Bill to Give Federal Access to Books.	Feb. 26	41
Proration Enforcement Awaits Supreme Court Decision	Feb. 26	50
Texas Commissioner Seeks Defeat of Federal Tax Bill	March 12	38
Senate Approves Administration Bill Fixing Tax for Oil Control.	Mar. 26	8
Ickes' Proposed Law Would Abandon All Except Shipment Regulation.	April 30	7
Revenue Bill Sent to President Raises Oil Tax	May 7	7
Government Control of Oil Industry Proposed in New Bill.	May 7	7
President's Intimated Approval Boosts Chance for Ickes Oil Bill.	May 14	11
Congressional Oil Investigation Bill Killed By House of Representatives.	May 14	12
Oil Control Bill as Introduced in House by Oklahoma Differs From Original.	May 21	9
Senate Hearing on Oil Control Bill Promises Lively Session	May 21	9
President's Approval of Ickes Oil Control Bill Does Not Stop Fight.	May 28	12
Control Bill Condemned by Fouts at Hearing as Unconstitutional	May 28	53
Collection of New Mil Tax on Oil Will Start June 9	June 4	40
Senate Committee Reports Favorably on Ickes Production Control Bill.	June 4	8
Ickes Again Urges Bill Adoption as Hearing Opens Before House Committee.	June 4	8
Oil Code Case Appeal is Filed in Supreme Court	Aug. 13	10
Validity of NRA will be Decided by U. S. Supreme Court.	Nov. 26	10
Interstate Compact Not Approved at Governors Meeting and Seems Remote.	Dec. 10	12
Natural Resources Board Report Favors Oil Control After Code.	Dec. 17	9
NIRA Defended Strongly in Brief by Government in Amazon Case.	Dec. 10	10
Supreme Court Judges Weighing Arguments in Amazon Code Case.	Dec. 17	9
Interstate Compact Proposed Law Draft Sent States for Study	Dec. 31	9

Investigations

Congressional Committee Plans Oil Investigation This Summer.	June 18	43
Congress Investigators Reach Texas on Field Inspection	July 16	18
House Oil Investigating Committee Sets Hearings	Sept. 3	9
House Investigating Committee to Hear Oil Administrator Ickes	Sept. 17	11
Congressional Committee Investigating Industry Hears Disagreeing Views	Sept. 24	11
Government Control Found by Committee to Be Strongly Opposed	Oct. 1	10
Investigating Committee, Dallas Meeting Hears About State Rights.	Nov. 9	9
Government Control Flayed and Praised Before Investigators.	Nov. 19	9
Contrasting Views and Recommendations Given Committee by Hearing Witnesses	Nov. 26	9
California Operators Tell Investigators They Favor Interstate Compacts.	Dec. 3	9

California

Deviation Survey Ordered by Court in Angle Controversy in California.	Jan. 8	9
Directional Survey Result Awaits Hearing in Court	Jan. 15	34
Huntington Beach Crooked Hole Suits Added Weekly	Feb. 19	75
Probably 100 Federal Injunctions in California.	April 9	31
Legal Steps Taken to Stop California Deviated Drilling	April 30	67

Oklahoma

Oklahomans Show Indian Land Lease Rules Block Development.	Feb. 19	41
Code Spacing Regulations Get First Hearing in Oklahoma Court.	Aug. 20	10

Texas

Correlation of Texas Reports Would Show Violators. Geo. A. Hill, Jr.	Jan. 15	21
Washington Moves to Facilitate Speed in Texas Code Prosecutions.	Feb. 5	10
Texas Council Financed and Manned for Aggressive Action.	Feb. 5	36
Court Upholds Texas Law Requiring Bond and Permit	Feb. 12	32
Dissenting Opinion on Rule 37 Decision Appeal Arguments.	Feb. 19	40
Texas Legislature Acts on Three Important Oil Bills	Feb. 26	44
Texas Refinery Control Bill Passed by Both Houses	March 5	9
Texas Commission Revenue Increase Up to Governor	March 5	9
Bills Giving Texas Commission More Power Signed by Governor.	March 12	9
Texas Ouster Suit Renewed Against Major Companies	March 12	10
Texas Proration Court Cases Due for Early Hearings	April 9	33
Texas Congressman Urges Action on Resolution to Probe Oil Allocations.	April 30	7
State Court Rule on Commission Spacing Order	May 7	40
Texas Officials Are Fighting Federal Oil Control Bill	May 14	11
U. S. Circuit Court Hearing in Texas Suit Upholds Oil Code Power.	May 28	14
Revised Texas Spacing Rules Will Affect Drilling in Texas.	June 4	34
Texas Hot Oil Rules Changed in Effort to Defeat Court Attacks	Aug. 20	9

General Features—Important News—(Continued)

Texas (Continued)

	Date	Page
Senate Committee Recommends Tax to Control Waste of Gas in Panhandle	Sept. 24	12
Texas Commission Empowered by Court Ruling to Regulate Shipments	Nov. 19	14
Order Prohibits Commission Requiring Public Hearings	Dec. 31	36

PIPE LINE NEWS

(See Engineering Section for Other Data.)

Economic

	Date	Page
Seek Early Injection of Pipe Line Divorcement in Congressional Session	Jan. 1	9
Texas Commission Requests Gas Line Divorcement	April 2	42
Pipe Line Divorce Offered as Amendment to Ickes Bill	June 11	8
Committee Inspects Pipe Coating Specimens Buried Four Years Ago	July 2	33
Pipe Line Hearing Is Recessed Again	Aug. 13	10
Texas Pipe Line Assessments Announced	Aug. 20	46
Texas Pipe Lines Want to Apply Federal Valuations	Aug. 27	48
Cost Causes Companies to Oppose Pipe Line Inventory	Sept. 10	78
Wyoming Commission Rules Pipe Line Common Carrier	Sept. 10	112
Commission Threatens to Withdraw Pipe Line Permits	Oct. 1	16
Pipe Line Permit Hearing Decision Not Rendered	Oct. 8	42
Texas Commission Revokes Pipe Line Permit	Oct. 15	9
Standardization of Pipe Line Valves and Fittings Proposed	Nov. 5	46
Companies Complain of Commission Deduction Rule	Nov. 12	56
One Percent Strappage Deduction is Eliminated	Dec. 3	12

Domestic Pipe Line Construction

	Date	Page
Pipe Line Will Serve New Michigan Gas Field	Jan. 22	55
Stanolind Looping Line to Gulf Coast Refineries	Feb. 12	28
Stanolind Extending Line to Russell County Pools	Mar. 5	40
Stanolind Building 155-Mile Pipe Line in Kansas	April 30	44
Stanolind Proposes Iles Pipe Line Outlet	June 11	60
Pipe Line Construction at Low Ebb on Gulf Coast	July 16	59
25-Mile Pipe Line for North Texas	July 23	48
108-Mile Pipe Line to be Built in California	Aug. 13	69
76-Mile East Texas Gas Line to be Built	Aug. 27	42
Montana-Canadian Crude Oil Pipe Line Completed	Aug. 27	68
Bosco Pipe Line Placed in Operation	Sept. 10	102
Southwest Texas Well Served by Network of Oil and Gas Pipe Lines	Sept. 10	39
Roanoke Pipe Line Project Abandoned	Sept. 10	104
Construction of Michigan Gas Pipe Line Starts	Sept. 10	114
2900 Miles of Pipe Lines Serve East Texas	Oct. 8	47
Start Work on Gas Line From Long Lake Field	Oct. 15	53
Vinton Pipe Line Completed	Oct. 29	44
32-Mile Gas Line to be Constructed (South Texas)	Nov. 12	72
Michigan Natural Gas Pipe Line Completed	Nov. 19	53
Stanolind Pipe Line Capacity Being Increased	Dec. 17	42

Foreign Pipe Line Construction

	Date	Page
Iraq Line to Start Late This Year William Schack	May 21	43
Iraq Oil Starts Moving	July 2	32
Submarine Pipe Line Being Laid in Bahrein is Three Miles Long	July 9	31

Foreign Technology and Development

ENGINEERING

Production and Drilling

	Date	Page
Equipment Used by John R. Bunn for Wildcatting in Northern Mexico	Mar. 19	19
Roumanian Well Preparing to Test at 11,160 Feet	Sept. 24	31
Drilling Against High Rock Pressure in the Khaur Field, Punjab, India C. E. Keep and H. L. Ward	Oct. 22	37
Methods Used for Lifting Oil in Germany Kurt A. Schuette	Nov. 26	35

Pipe Line

	Date	Page
Welding the Iraq Pipe Line William Shack	Oct. 22	35
Submarine Pipe Line Being Laid in Bahrien is Three Miles Long	July 9	31

Exploration, Geological

	Date	Page
The North German Salt Dome Map Dr. J. Brian Eby	Feb. 5	12
The Munich Tertiary Basin of Southern Bavaria	Feb. 12	16
Important Wildcatting Program Progressing in Northern Mexico Brad Mills	Mar. 19	14
Geological and Drilling History of Knight's Dome, South Australia A. E. Knight	Dec. 24	35

FEATURES—GENERAL

Crude Reserves

	Date	Page
Is It Possible to Increase German Oil Production? Dr. A. Bentz	Feb. 5	22
Brazil Has No Proven Oil Fields But Possesses Tremendous Shale Deposits Victor Oppenheim	Sept. 17	32
Peru's Enormous Prospective Area Enhances Its Oil Reserve Augusto Cabrera La Rosa and Oscar Quiroga	Aug. 6	35

General Features—News

	Date	Page
Canadian Operators Endeavor to Find New Pertoleum Fields	Ju'y 23	32
Mexican Petroleum Plans Cause Indecision	Jan. 8	12
A Few Highlights of Oil Field Development in Germany Walter Kauenhowen	Feb. 5	28
Soviet Oil Industry Expands Pipe Line System	Mar. 19	35
Important Wildcatting Program Progressing in Northern Mexico Brad Mills	Mar. 19	14
Iraq Oil Will Be Coming on Market Early in April	Mar. 19	36
Rumania Oil Industry Keeps Pace with World Developments Nic N. Stefanescu	May 14	165
Increased Russian Drilling Fails to Enlarge Production	June 11	38
Soviet Oil Enters New Intensive Phase William Shack	June 4	31
Soviets to Stress Drilling Research William Shack	June 25	34
Cuban Field Produces Refined Naphtha Gasoline Leo J. Reisler	July 9	33
Alberta Oil and Gas Development and Production Practices—1934	Sept. 3	35
Increase in German Oil Production Through Government Program Kurt A. Schuette	Oct. 15	47
Present Conditions and Outlook of the Mexican Petroleum Industry Primo Dilla Michell	Oct. 29	33
Soviet Competition On World Oil Mart Will Rapidly Diminish M. N. Jurin	Nov. 12	47
Anglo-Persian is Increasing Its Persian Facilities to Meet Demands	Dec. 3	35
Austria Enters Ranks of Oil Producing Countries	Dec. 10	37
Germany Envisages Motor Fuel Self-Sufficiency Sidney B. Redecker	Dec. 17	31

Association Activities, Conventions, Expositions

American Association of Petroleum Geologists, Geophysicists and Affiliated Groups

	Date	Page
Geology of Increasing Value in Production Engineering Warren L. Baker	Mar. 26	7
Rosaire Elected to Head Geophysicists Association	Mar. 26	36
Paleontologists Elect Lewis Association Head	Mar. 26	38

American Institute of Mining and Metallurgical Engineers

	Date	Page
A.I.M.E. Technologists Favor Stringent Government Regulations	Feb. 26	10
A.I.M.E. to Hold Two Fall Petroleum Meetings	Sept. 10	84
Reservoir Fluid Changes Feature Topic of A.I.M.E. Program (Petroleum Division)	Oct. 8	10
California A.I.M.E. Session Concluded	Oct. 8	42
A.I.M.E. Session Reveals Progress in Reservoir Research (Petroleum Division Annual Meeting)	Oct. 15	6

American Petroleum Institute

	Date	Page
A.P.I. Mid-Continent Engineers Studying Future Problems at Oklahoma City	Feb. 19	14
Los Angeles A.P.I. Committees Named	Mar. 26	9
California A.P.I. Division of Production Elects Bruce Barkis	April 9	10
Eastern Operating Problems Discussed at A.P.I. Meeting	April 9	32
Program Announced for A.P.I. Southwest Meeting	April 9	34
Engineering Study of Petroleum Problems of Increased Importance (Southwestern District) Brad Mills	April 23	36
A.P.I. Mid-Year Meeting Has Interesting Program	April 23	37
Progress in Drilling and Production Practice Reviewed at A.P.I. Meeting Spencer W. Robinson and Warren L. Baker	May 28	8
Value of Institute Work Reviewed; Directors Silent on Control Bill Spencer W. Robinson	May 28	8
Production Program Deals Largely With Problems of Eastern Area (Mid-Year A.P.I. Meeting) Warren L. Baker	May 28	9
5,000 Expected to Attend A.P.I. Annual Convention	Oct. 1	16

Association Activities, Conventions, Expositions—(Continued)

American Petroleum Institute (Continued)

	Date	Page
Institute Announces Program for Fifteenth Annual Meeting	Oct. 15	8
A.P.I. Production Chapter Organized at Houston	Nov. 5	44
Industrial Issues Dominating Interest at A.P.I. Meeting (Annual Meeting)	Nov. 19	10
Text of Ickes Address Before A. P. I.	Nov. 19	17

American Petroleum Equipment Suppliers' Association

A.P.E.S.A. Elects New Officers and Additional Directors	Aug. 13	78

American Society of Mechanical Engineers

A.S.M.E. Tulsa Meeting Covers Wide Subject Range	May 21	38

Diamond Jubilee

Diamond Jubilee Celebration Is Interesting and Well Attended	Aug. 27	11
Looking Back 75 Years Only the Actors Change. Grady Triplett	Aug. 20	16
Early Sketches in Oil. Harry Botsford	Aug. 20	25

Independent Petroleum Association of America

Independents Want Compacts Aided by Limited Federal Control	Dec. 10	40

Independent Petroleum Association of Texas

Texas Independent Group Opposes Federal Control	Dec. 24	11

Independent Petroleum Association

I.P.A.A. Stand on Federal Legislation Is Made Known	Nov. 5	12

International Petroleum Exposition

Tulsa Exposition Opens	May 14	33
Technical Advances and Feeling of Optimism Displayed at Tulsa Show	May 21	10
1934 Petroleum Exposition Expected to Be Most Successful	May 7	24

Mid-Continent Oil & Gas Association

Mid-Continent Association Lays Plans for Coming Months	May 21	39

National Oil Scouts of America

National Oil Scouts Hold Convention at Lake Charles	May 28	56

National Petroleum Association

N.P.A. Convention Studies Markets and Economics	April 30	72

Oil Equipment and Engineering Exposition

Latest in Equipment and Methods to Be Seen at Houston Show	April 16	21

Western Petroleum Refiners Association

Western Refiners Are Told Federal Control Is Likely	April 9	32

Field Development and Exploration

(Only important field articles and new discoveries. For current reports on field operations see weekly reports from all domestic and foreign fields).

ARKANSAS

	Date	Page
Miller County Extension Holds Interest in Arkansas	Feb. 5	60
Deeper Oil Sand Found in Rainbow City Field	Nov. 12	82
New Rainbow City Pay Level Found; Taylor Sand Extended	Dec. 24	66
Rainbow City Field New Horizon Extended to South	Dec. 31	59

CALIFORNIA

Few California Wells Have Been Sensations Initially	Jan. 1	32
Discovery in Ventura County Looks Promising	Jan. 1	34
South Mountain Wildcat Flows 24 Gravity Oil	Feb. 5	39
Belridge Edge Test in Reach of Setting Depth Record Depth	Mar. 12	70
Edison District, Kern County, New California Producing Area	April 2	72
Mountain View Extension to Stimulate Drilling	April 9	62
Fresno County Wildcat Shows Better With Depth	April 9	63
California Test Reaming to Bottom of Record Depth Hole	April 16	16
Complete Mountain View Extension Well	April 23	62
Unusual Shallow Oil Field. Albert Marple	Oct. 8	30
New Gas Field May Be Opened Near Sacramento	Dec. 24	70

KANSAS

Russell County Strike Threatens Townlot Work	Feb. 19	47
New Gas Field Found in Anderson County, Kansas	Feb. 26	48
New Kansas Hunton Lime Pool is Opened	Mar. 12	44
Kansas Wildcat Effort Rewarded by Two Strikes	Mar. 26	48
Twelve New Oil Wells in Kansas for Week	May 7	48
Oil Well Found in Otis Gas Field	July 30	52
New Chat Producing Pool for Reno County	Sept. 10	92
Burrton-Haury Well Showing in Wilcox Sand	Nov. 12	61
Otis Extension Test is Showing Gas	Nov. 12	61
Otis Gas Field is Extended Mile Southeast	Nov. 19	54
Scott County Well Rated 200 Barrels	Dec. 31	44

LOUISIANA

Gulf Coast—

New Louisiana Coastal Field Found	April 30	61
Deep Roanoke Wildcat May Open New Coastal Field	May 21	58
Increasing Development in South Louisiana Continues. T. R. Dean.	May 28	66
New Roanoke Field May Become Production Factor	May 28	64
Gulf Coast Oil and Gas Fields and Prospects (Tabulated History). Jack Logan	July 16	67
New Bosco Extension Causes More Drilling	July 23	56
Bosco Area Defined in Three Directions	Aug. 20	65
Bosco Field is Extended and Defined During Week	Sept. 3	56
Bosco Field is Being Extended to Southwest	Oct. 22	62
Bosco Field Extended Quarter Mile Northeast	Nov. 19	66
Louisiana Coast's Easy Drilling Conditions Factor in Deep Play. Brad Mills.	Dec. 10	16
Bosco Field Extended 900 Feet Eastward	Dec. 10	61
New Gillis Field Extended Half Mile	Dec. 17	56
Bosco Field is Extended to South	Dec. 24	61
New Pay Sand Found at Lake Washington	Dec. 31	56
Gillis Field May Be Extended to South	Dec. 31	56
Southeast Extension Given Bosco Field	Dec. 31	56

North Louisiana—

Effort to Extend Converse Chalk Production is Failure	Jan. 22	46
Haynesville Deep Test Refuses to Flow	Feb. 5	59
New Converse Sand Found to be Spotted	Feb. 12	63
Haynesville Deep Test Rigging Up to Pump	Feb. 12	63
Abandoned Claiborne Test Begins Making Oil	Feb. 12	64
DeSoto Parish Wildcat Testing Glen Rose Show	Mar. 19	72
Converse Completions Extend Production	April 23	60
Two Gassers Extend Rodessa Field Production	June 25	70
Rodessa Gas Field Extended into Texas	Aug. 20	56
Rodessa Gas Field Extended One Half Mile	Oct. 1	66
Two Old Louisiana Fields are Extended	Nov. 5	64
Sligo Gas Field Extended Two Miles to Northeast	Dec. 10	63
Zwolle Has Been an Erratic But Remarkable Producing Area	Dec. 24	63
Zwolle Field Gets Extension	Dec. 31	58

MICHIGAN

Promising Shows Reported in Three Michigan Tests	Jan. 1	60
Michigan Development at High Point in 1933	Jan. 15	59
Record Gas Wells Extend (Austin Township) Field Northward	Jan. 22	54
Two Michigan Wildcats Showing for Production	Feb. 26	75
Small Gas Well Extends Broomfield Pool Production	May 28	75
Two Michigan Wildcats Encountered Gas Flows	Sept. 3	62
Austin Gas Field is Extended Two Miles	Sept. 10	114

MISSISSIPPI

Jackson Gas Field Extended Quarter-Mile	Sept. 3	59

NEW MEXICO

Jal Field is Extended Half Mile by Completion	Jan. 15	56
Third Oil Producer in Jal North Extension	Feb. 19	75
New Oil Pool Opened in New Mexico	April 16	151
Second Important Strike in New Mexico	April 23	64
Jal Extension Well Produces 4500 Barrels	April 30	68
Cooper Pool Enlarged by Half Mile Northeast Extension	Sept. 3	59
Prolific Production Found by Outpost Tests at Eunice	Sept. 24	67
New Starts and Extensions Feature New Mexico Work	Dec. 24	67

OKLAHOMA

Tatums Well Producing from New Sand; Means More Drilling	Jan. 22	28
Oklahoma-Kansas Operators Will Push Search for New Reserves. Floyd Swindell.	Jan. 29	16
Fourth Pool in Prospect for Oklahoma County	Feb. 19	43
Oklahoma Deep Test Showing; New Pool at Langston	Mar. 5	37
Caddo Deep Test is Fighting Possible Blowout	Mar. 12	44
Nemaha Ridge Discovery Well to be Deepened	Mar. 12	45
Record Casing String Set at 9900 Feet in Oklahoma Wildcat	Mar. 19	12
Fitts Pool is Extended Two Miles	Mar. 19	48
Binger Dome Showing Probable Important Oklahoma Deep Reserve. Floyd Swindell.	Mar. 26	10
Binger Test Makes Several Flows; Bridged	April 2	48
New Pool Opened in Logan County	April 2	49
New Pool Opened in Seminole District	April 16	148
Second Wilcox Sand Ups Crescent Rating	April 23	42
Lincoln County Wildcat Has Showing in Prue Sand	April 23	42
New South Burbank Pool Extended Quarter West	May 21	46
South Burbank Pool Extended One Half Mile	June 11	40

Field Development and Exploration—(Continued)

Oklahoma (Continued)

	Date	Page
New Field Found on Tonkawa-Lucien Trend	June 25	52
Fitts Pool Gusher Area is Extended	Aug. 20	50
Polo Field Extended One Location North	Sept. 3	44
Fitts Pool Production Extended to Southeast	Dec. 17	43
Kay County Well Flowing by Heads	Dec. 24	51

ROCKY MOUNTAIN STATES

Cut Bank Extension Well Producing from 2982 Feet	Jan. 8	52
Missing Production Leads to Deep Sand Discovery (Whitlash)	Jan. 29	92
Whitlash Extension Well Flowing 25 Barrels Daily	Feb. 5	62
Extension Indicates Cut Bank World's Biggest Pool	Feb. 5	62
Another Light Oil Field Prospect in Montana	Feb. 19	76
Utah Test Finds Thirty Million-Foot Gas Flow	Sept. 17	62
Utah Wildcat Is Showing Oil	Dec. 31	60

TEXAS

East Texas—

Gasser Extends Long Lake Producing Area	Jan. 29	66
East Texas Wells Equal Cased Hole Longer than Earth's Diameter H. H. King.	Jan. 22	8
Anderson County Wildcat Shows Favorable Structure	Feb. 12	43
New East Texas Woodbine Sand Field Opened at Cayuga	Feb. 19	49
Cayuga Wildcat Makes Oil on Drill Stem Test	Feb. 26	51
Cayuga Producer Opens Big Wildcat Campaign	Mar. 5	42
Gas Discovery in Leon County; Cayuga Locations Announced	Mar. 19	55
Magnolia Purchase Sets New Record for East Texas Field	Mar. 26	32
Cayuga Gives Promise of Becoming Important Field Jack Logan.	Mar. 26	50
Extension Well Brightens Cayuga's Prospects	April 9	43
Cayuga Extension Opens Area to Competitive Drilling	April 16	153
Cayuga Field Extended One Mile Northeast	May 7	48
Long Lake Field Indicated to Be Important Gas Reserve Jack Logan.	May 21	25
New Cherokee County Pool Conceded to Have Large Area	June 11	45
Cayuga Field Receives Important Extensions	June 11	47
Cayuga Field Extended Mile West by Gas Well	July 9	48
Cayuga Field Partly Defined; Also Extended	July 23	45
East Texas Completion Extends Field Northeast	Aug. 20	54
Cayuga Gas Area Extended Southwest	Aug. 20	55
Long Lake Field Extended 2½ Miles	Aug. 27	55
Houston County Receives First Oil Production	Sept. 10	93
Minor Extensions Made to East Texas Field	Oct. 8	48
Two Gassers Completed in East Texas South End	Oct. 15	64
East Texas Extended in Two Directions	Dec. 24	52

Gulf Coast—

Polk County Wildcat Flows Oil and Gas on Test	Jan. 1	51
New Cleveland Field is a "Conroe" Type Producer	Jan. 8	44
Second Producer Added in New Louise Field	Jan. 8	46
Gulf Coast Wildcatting is Stimulated by Discoveries	Jan. 8	47
Only 100-150 More Wells on Present Program for Conroe Brad Mills.	Feb. 19	63
Correct Gas-Oil Ratio in Cleveland Discovery Well	Feb. 19	61
Deep Sand Possibilities at Goose Creek Warrant Consideration Brad Mills.	Mar. 5	57
Manvel Field Extended Westward	Mar. 12	62
Splendora Wildcat May Open New Conroe Trend Field Charles Leyendecker.	Mar. 19	67
Matagorda County Wildcat Showing Holds Importance	Mar. 26	65
Tomball Completion Extends Field Eastward	April 2	64
Livingston Extension Well Showing Oil	April 23	56
Manvel Field Extended Southeast	April 30	59
Cockfield Sand Found in Raccoon Bend Field	April 30	60
Cockfield Production Found at Raccoon Bend	May 7	64
Minor Extension for Conroe Field	July 2	54
Prolific Cockfield Production Found at Raccoon Bend	July 2	56
Largest Livingston Well Extends Field	July 9	56
Gulf Coast Oil and Gas Fields and Prospects (Tabulated History) Jack Logan	July 16	91
Ten New Fields Opened on Gulf Coast During Past 16 Months Jack Logan.	July 16	65
Boling Flank Test Shows in New Sand	July 23	53
Livingston Extension Causes New Operations	Aug. 6	63
Conroe Field is Extended to South	Sept. 10	93
Brazoria County Test Drilling in Sand	Sept. 10	103
Manvel Field is Extended to South	Sept. 17	56
Hankamer Extended	Oct. 15	70
South Liberty Extension Well Producing From New Sand	Oct. 15	72
Minor Extension for the Manvel Field	Oct. 22	63
Pledger Field is Extended One Mile	Nov. 5	62
Batson Field is Extended Southward	Nov. 12	76
New Gulf Coast Field in Brazoria County	Nov. 12	77
New Field Opened at Eureka, Harris County	Nov. 26	66
Tomball Field is Given East Extension	Dec. 10	60
New Sand Found in Hankamer Field	Dec. 24	59
New Field Opened in Brazoria County	Dec. 31	54
1500-Barrel Well Opens New Sand at Hankamer	Dec. 31	52

North Texas—

	Date	Page
Mid-Continent Texas Drilling More than Any Other Area H. H. King.	Jan. 29	24
Deeper Pay Found in Young County	Mar. 19	56
Wildcat Strike Interesting in Northern Young County	Mar. 26	55
Two New Pools Opened in West Central Texas	May 21	47
Deep North Texas Pool Extended Three Miles	Aug. 13	56
North Texas Completions Include Minor Extensions	Aug. 20	57
Bryson Deep Production Extended North	Aug. 27	56
Second New Pool Opened in Russell County	Sept. 3	42
Deep Gas Sand is Opened in Wichita County	Nov. 19	58
Important Extension is Made to Navarro Structure	Dec. 3	58
Wildcat Oil Strike Made in Shackelford County	Dec. 31	46
Third Producing Sand Found at South Electra	Dec. 31	46

Panhandle—

Texas Panhandle Field Given Two-Mile Extension	Mar. 5	46
Deep Exploration Soon to Get Underway in Panhandle	April 2	56
Wheeler County Pool Extended Westward	April 9	46
Granite Ridge South Flank Production is Extended	Sept. 3	47
Pumper Opens New Field in Hutchinson County	Oct. 15	65

South Texas—

Tenth Try on Refugio Block Brings Success	Jan. 1	48
Bee County Strike Appears Important	Jan. 1	50
Failure Marks Boundary of Government Wells Section	Jan. 1	51
Oil Well Extends Greta Production Mile North	Jan. 15	47
New Shallow Field Opened in Starr County	Jan. 29	76
New Producing District in Government Wells Area	Jan. 29	76
Jim Wells Production Area Extended Two Miles	Jan. 29	78
Extensive Drilling in Sight for South Texas District Earl S. Post.	Jan. 29	22
Government Wells Sand Extension Increases Interest	Feb. 5	50
Promising South Texas Areas Get Set Back During Week	Feb. 12	55
New Deep Gas Field Opened in Webb County	Feb. 26	60
Cuevitas Gas Field Extended 2600 Feet	Mar. 5	53
New Field In Prospect for Bexar County	Mar. 12	58
New Field May be Opened in Central Starr County	Mar. 26	61
Live Oak County Wildcat on Fire After Blowout	Mar. 26	61
New Bexar County Field Opened Near San Antonio	Mar. 26	63
Greta Field is Extended Westward	April 2	62
Greta Developments Mean More Drilling	April 9	51
Greta Field Again Extended Westward	April 16	158
Short Government Wells Extension is Important	April 23	52
San Patricio County Producer Hailed as Opening New Field	April 30	50
Deeper Sand Found on King Ranch	April 30	52
Another Important South Texas Oil Discovery	May 7	61
New Sand Found in Nueces County	May 7	62
Government Wells Field Extended Westward Again	May 7	64
Northern Bee County Area Gets Extension	May 14	179
Jackson County Discovery Initiates Lease Transactions	May 14	178
New Oil Field Opened in San Patricio County	May 21	53
Deep Sand at Greta Extended 4100 Feet	May 21	54
More Discovery Wells in South Texas Area	May 21	54
Starr County Wildcat Hits Heavy Gas Sand	May 21	55
New Deep Sand Found in Cole Field	June 11	51
New Pettus Sand Field Opened West of Tuleta	June 18	53
New Producing Sand Found in Raisin Field	July 2	52
Jacob Pool Extended Half a Mile South	July 9	54
Jacob Field is Extended to South	July 23	51
Jacob Field Gives Another South Extension	July 30	62
Second and Deeper Sand Found in Angelita Field	July 30	64
Cole Pool Deep Sand is an Important South Texas Strike	Aug. 6	62
Driscoll Field Has New Producing Sand	Sept. 3	50
Southwest Texas Oil and Gas Fields and Prospects (Tabulated History)	Sept. 10	43
Bruni Field Extended One Mile to North	Sept. 10	99
West Tuleta Field Extended to South	Sept. 17	55
Hidalgo County Strike Causes Start of Big Drilling Campaign	Oct. 1	58
Samfordyce Becomes Most Important South Texas Field	Oct. 8	52
Sinton Field is Extended Northwest	Oct. 8	51
New Navarro Sand in Bexar County	Oct. 8	53
Sinton Extension Well Showing in Deeper Sand	Oct. 15	68
Samfordyce, South Texas Latest Major Possibility, a New Type Field Earl S. Post.	Nov. 12	68
Extensions are Made to the Samfordyce Field	Nov. 12	74
Another Good Well in Cole Field Deep Sand	Nov. 12	75
New Oil Sand is Found at McFaddin	Nov. 26	61
New Pool Found Eight Miles From Eagle Hill	Nov. 26	62
Gas Field Found in Southern Karnes County	Nov. 26	63
New Jackson Trend Pool is Found in Duval County	Dec. 3	59
Lopeno Field Zapata County, Is Extended	Dec. 3	60
Minor Extensions are Made to Samfordyce Pool	Dec. 10	57
Tuleta Field is Extended Half Mile South	Dec. 10	57
Cole Field Deep Sand is Given Important Extension	Dec. 17	51
Samfordyce Given Small South Extension Last Week	Dec. 24	56
Two New Fields in Government Wells Area	Dec. 24	57
Deeper Sand Found in the Sinton Field	Dec. 24	57
Cole Field Extended by Good Shallow Well	Dec. 31	49
Production Established in Love Ranch Area	Dec. 31	49
New Sand Extends Sinton Mile Southwest	Dec. 31	49
West Tuleta Extended Half Mile Southeast	Dec. 31	49

Field Development and Exploration—(Continued)

South Texas (Continued)

	Date	Page
Another Pettus Sand Field Found in Bee County	Dec. 31	50
New Duval Discovery Pumping 150 Barrels	Dec. 31	50
Samfordyce Given a Southeast Extension	Dec. 31	51

West Texas

Big Lake Outpost Test Makes 625 Barrels Initial	Feb. 26	52
New Texas State Depth Record Established	April 23	45
North Cowden Field Extended to South	June 4	51
Prospects Bright for Sixth Field in Ector County	Sept. 24	58
Second Sayre Field Well Extends Production	Dec. 17	49
New Pool Opened in Pecos County	Dec. 24	54
Ector County May Get Another Wildcat Strike	Dec. 31	48

Maps

FOREIGN

	Date	Page
Geological Map of Germany	Feb. 5	24
North German Salt Dome Basin	Feb. 5	Special Insert
Munich Basin, Germany	Feb. 12	17
Southern Portion of Bavaria	Feb. 12	20
Zacate Structure in Northeastern Mexico	Mar. 19	15
Brazil	Sept. 17	33

DOMESTIC

California

Part of Huntington Beach Oil Field	Mar. 5	69
Daily Crude Oil Production in California	Aug. 13	Insert Chart

Florida

Florida	Jan. 22	49

Louisiana

Sketch Showing Converse-Zwolle Oil Zone	Jan. 8	15
Acadia Parish, Louisiana Gulf Coast	June 4	58
Texas-Louisiana Gulf Coast Region	July 16	Insert

Oklahoma

Burbank Pool	Feb. 12	37
Oklahoma City Pool	Feb. 19	43
Anadarko Basin—Oklahoma	Mar. 26	12
Map of Oklahoma	May 14	Special Insert

Texas

	Date	Page
Cleveland Field, Liberty County	Jan. 8	45
Government Wells Area, Showing Outline of Pools and Location of Important Wildcat Wells	Feb. 5	51
Anderson County	Feb. 19	49
Generalized West-east Cross Section of East Texas Field	Feb. 26	15
Location of Splendora, East of Conroe in Montgomery County	Mar. 19	67
Cayuga, Northwestern Anderson County, Texas	Mar. 26	51
East Central and Northeast Texas	Mar. 26	51
Map of East Central and Northeast Texas	May 21	26
Government Wells Field—Duval County, Texas	June 11	17
New Cherokee County	June 11	45
Pettus District	June 18	53
Refugio District	June 25	64
Texas-Louisiana Gulf Coastal Region	July 16	Insert
Portions of Houston and Trinity Counties Showing East Texas' Latest Oil Strike	Sept. 17	47
Southwest Hidalgo County	Oct. 1	59
Newest Area Showing for Production in Harris County, near Eureka Junction	Dec. 3	63
Pettus District	Dec. 31	51
New Brazoria County Field	Dec. 31	54

Regular Weekly Features

(Not included above)

The Changing Panorama.
The Oil Man's Calendar (Schedule of Meetings, Etc.).
Men in the Industry's News.
Foreign Technology and Development.
Estimated Daily Average Production in United States Fields.
U. S. Crude Production and Refinery Runs Chart.
Summary of All Field Completions During Each Week.
Comparison of Permits Granted for New Wells in Important Areas.
Crude Oil Price Quotations for All Fields.
Field Development News for All Fields.
New Equipment for the Field.
News from the Industry's Equipment Makers.
"Squeaks" from the Bull Wheel.

Special Numbers

	Date	Page
Annual Statistical Review (1933)	Jan. 29	
1933 Index to The OIL WEEKLY	Feb. 5	
Oil Equipment and Engineering Exposition Number	April 16	
International Petroleum Exposition Number	May 14	
Gulf Coast Development Issue	July 16	
Mid-Year Statistical Review	July 16	
South Texas Development Issue	Sept. 10	

Authors Index

	Date	Page
ALBERTSON, M.		
Acreage and Sand Thickness As Factors in Proration	Nov. 19	33
ALBRIGHT, J. C.		
Big Lake Oil Company Has Efficient Treating Plant	July 9	29
Texas Panhandle May Have 20 Years More of Producing Life	Aug. 13	31
Unusual Rig Hook-Up Uses Cellar as Site of Equipment	Sept. 17	20
Freezing Condition in Carbon Dioxide Gas Well is Overcome	Sept. 24	27
Panhandle Crude Requires Special Care in Operation of Pipe Lines	Oct. 8	31
An Orderly Drilling Rig Hookup Includes Interesting Boiler Arrangement	Oct. 29	21
Central Power Design in Panhandle Must Allow for Rugged Terrain	Nov. 5	25
Dual Metering System Handles Wide Range of Volume at Compressor Station	Nov. 26	31
System of Manifolding Permits Control of Gas Lift Operations	Dec. 10	24
Removal of Small Quantities of Hydrogen Sulfide from Gas	Dec. 24	31
Union Oil Company's System of Treating Cut Oil at Santa Fe Springs	Dec. 31	20
ARCHER, W. E.		
El Segundo Marine Loading Line Laid in Half-Mile Sections	Mar. 19	33
BACON, THOMAS S.		
Internal Corrosion of Natural Gas Pipe Lines	Oct. 29	25
BAKER, WARREN L.		
Geology of Increasing Value in Production Engineering	Mar. 26	7
Lenticular Sands in Gulf Coast Fields Are Repressured Successfully	April 9	17
Production Program Deals Largely With Problems of Eastern Area	May 28	9
Efforts Renewed to Control Industry	July 2	7
Industry Still Needs Stabilization	July 9	7
BALLARD, J. H.		
Piston Rings	Dec. 31	24
BARTON, DONALD C.		
The Munich Tertiary Basin of Southern Bavaria	Feb. 12	16
BAY, B. R.		
Compressor Station Problems	Nov. 5	29
BEARDMORE, HERBERT F.		
Possible Future Production Methods, Oklahoma City Field	Feb. 19	15
Possible Future Production Methods, Oklahoma City Field	Feb. 26	20
BENTZ, DR. A.		
Is It Possible to Increase German Oil Production?	Feb. 5	22
BERWALD, W. B.		
Formulas for Designing Natural Gas Pipe Line Systems Consisting of Parallel Lines	July 30	31
BINGHAM, I. F.		
Effect of Market Price of Crude Oil on the Economic Limit of Stripper Wells	July 9	15
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Article I	Nov. 26	15
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Article II	Dec. 3	24
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Article III	Dec. 10	30
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Article IV	Dec. 17	19
Mechanical Down Time Analysis in Greater Seminole Advances Pumping Technique, Part V	Dec. 24	22
BOTSFORD, HARRY		
Early Sketches in Oil	Aug. 20	25
BUNN, JOHN R.		
Equipment Used by John R. Bunn for Wildcatting in Northern Mexico	Mar. 19	19
BURGESS, ALLEN H.		
Three Factors Enter Into Equitable Gas Flow Proration	Mar. 19	29
BYLES, AXTELL J.		
Industry Hesitates When Government is Undecided	Aug. 27	10
Statistical Position Greatly Improved	Dec. 31	10
BYRAM, R. A.		
Texas Commission Issues Drastic Orders for Rigid Production Control	April 9	9
CANNON, GEORGE E.		
Changes in Hydrostatic Pressure Due to Withdrawing Drill Pipe From the Hole	April 23	21
CARTTER, CHARLES P.		
Southwest Texas Has Every Type of Drilling Condition	Sept. 10	22
CHILDS, W. L.		
Industry Cooperation Urged in Behalf of Equipment Code	April 30	34
COVELLE, K. A.		
Acid Treatment of Michigan Oil Wells	May 28	17
COVELLE, L. K.		
Vocational Training in the Oil Industry	Feb. 19	23
CRITES, W. J.		
Flowing Wells Naturally	Nov. 12	41
DAVIS, A. F.		
Pipe Line Completed by Arc Welding Without Backing-Up Rings	Oct. 1	33
DEAN, T. R.		
Increasing Developments in South Louisiana Continue	May 28	66
DETERDING, SIR HENRI		
"Hot Oil Blocks International Stabilization"	Aug. 27	12
DEUSSEN, ALEXANDER		
Texas-Louisiana Gulf Coast and the Nation's Crude Oil Reserves	July 16	22
DICKSON, H. L.		
Personal Picture	Sept. 17	70
DOTT, ROBERT H.		
Discoveries Required to Maintain Status of Production in Oklahoma.		
Part I—Future Production From Proven Areas	April 30	15
Part II—Future Needs	May 7	14
Part III	May 14	15
DUDLEY, R. L.		
What of Reserves?	Jan. 29	7
All Right Mr. Commissioner!	June 18	5
And Now Mr. Ickes	June 18	6
The Congressional Investigation	July 23	5
Price Cut? Who Knows?	Oct. 22	7
Some Comments on Ickes' Speech	Nov. 19	5
EASTON, H. D.		
Converse "Chemical Formations" Present Something New in Field Developments	Jan. 8	14
EBY, DR. J. BRIAN		
The North German Salt Dome Map	Feb. 5	12
FIKE, R. F.		
100,000 Mile Club Gets Hearty Cooperation in Reducing Automobile Costs	Aug. 27	25
FORAN, E. V.		
Pressure Completion of Wells in West Texas	April 23	15
FRASER, O. B. J.		
Properties of Nickel Alloy Cast Irons and Their Special Applications in Petroleum Production Equipment	May 28	32
GARFIAS, V. R.		
World Production of Petroleum and Allied Products Above 1929 Figure	Nov. 12	25
GEORGE, H. C.		
Development of Technical Education for the Petroleum Industry	June 11	29
GILL, STANLEY		
Combatting Corrosion of Production Equipment	Jan. 22	12
GROSS, WM. V.		
Statistics for Half of 1934 Show Improved Conditions	July 16	8
HAGER, DORSEY		
The Oil Business is Now Honest With Itself	July 23	12
New Supplies and Reserves to Meet Consumption Demands Must Be Found	Sept. 3	14
HARDER, H. O.		
Possible Future Production Methods, Oklahoma City Field	Feb. 19	15
Possible Future Production Methods, Oklahoma City Field	Feb. 26	20
HARWICK, C. A.		
Construction Records Are Made on South Texas Brine Pipe Line	June 18	27
HEROLD, STANLEY		
The Trend in Petroleum Technology	June 11	15
The Trend in Petroleum Technology	July 2	17
The Trend in Petroleum Technology	July 23	17
The Trend in Petroleum Technology	Aug. 6	19
The Trend in Petroleum Technology	Sept. 3	19
The Trend in Petroleum Technology	Sept. 24	19
The Trend in Petroleum Technology	Oct. 29	19
The Trend in Petroleum Technology	Dec. 3	17
The Trend in Petroleum Technology	Dec. 31	19
HEWGLEY, J. M.		
Reconditioning of Wells in the Oklahoma City Field	Feb. 19	21
HILL, EDWARD A.		
Another Guess About Oil Possibilities in Florida	Jan. 22	48
HILL, JR., G. A.		
Correlation of Texas Reports Would Show Violators	Jan. 15	21
Equipment Makers Could Help Control Racketeers	April 23	38
HOGG, C. C.		
Increased Recovery by Applying Air and Gas Pressure to Oil Sands	June 4	15
HOUCHINS, JOHN M.		
Effect of Market Price of Crude Oil on the Economic Limit of Stripper Wells	July 2	15
HURST, WILLIAM		
Variations in Reservoir Pressure in the East Texas Field	Oct. 15	24
HUTCHESON, JR., JOSEPH C.		
Hutcheson Interprets Constitution As Safety Valve in March of Progress	Jan. 1	14
ICKES, HAROLD L.		
Administrator Reviews Federal Control and Makes Plea for Support of Control Bill	May 21	11
Text of Ickes' Address Before A.P.I.	Nov. 19	17
JENNY, W. P.		
Do Magnetometer Surveys Fail to Reveal Commercial Structures	Mar. 12	16
Structural Trends on the Gulf Coast, Part I	July 16	33
Structural Trends on the Gulf Coast, Part II	July 23	23
JOHNSON, T. W.		
Formulas for Designing Natural Gas Pipe Line Systems Consisting of Parallel Lines	July 30	31
JONES, RICHARD A.		
Surface Geology of Northwest Part of Government Wells Producing District, Duval County	July 30	23
This Sarnosa Oil Field	Nov. 5	55

SEP 1935

Authors Index—(Continued)

	Date	Page
JURIN, N. M.		
Soviet Competition on World Oil Mart Will Rapidly Diminish	Nov. 12	47
JUST, EVAN		
Proration and Unrestricted Wildcatting	Mar. 5	14
KATZ, D. L.		
Effect of Gas Liberation Upon the Properties of Crude Oil	Oct. 22	19
KAUENHOWEN, WALTER		
A Few Highlights of Oil Field Development in Germany	Feb. 5	28
KEEP, C. E.		
Drilling Against High Rock Pressure in the Khaur Field, Punjab, India	Oct. 22	37
KELLY, R. B.		
The Potential or Productivity Factor in Allocation Formulas	Feb. 19	26
KESSLER, J. B. AUG.		
Reduced Motor Transport Cost As Way Out of Depression	Jan. 1	30
KING, H. H.		
East Texas Wells Equal Cased Hole Longer Than Earth Diameter	Jan. 22	8
"Mid-Continent" Texas Drilling More Than Any Other Area	Jan. 29	24
Texas Officials Pledge Mass Meeting More Efficient Regulation	April 2	35
Record Length String of Casing is Landed and Cemented With Ease	July 30	8
KNIGHT, A. E.		
Geological and Drilling History of Knight's Dome, South Australia	Dec. 24	35
KNOWLTON, D. R.		
Effect of Volumetric Withdrawal on Physical Waste in the Oklahoma City Field	Mar. 5	26
KUBISTA, W. R.		
Industrial Codes and the Purchasing Departments	June 25	30
LANE, W. C.		
Braking With Electric Motors On Drilling and Pulling Equipment	July 2	25
Large Size Gearmotor Applied for First Time On Deep Pumping Wells	Aug. 27	34
Stripper Wells Operated by Small Gas-Electric Unit	Nov. 5	22
Squirrel-Cage Motors Types Used for Pumping Oil Wells	Dec. 3	19
A Portable Generator Successfully Drives An Alternating Current Rig	Dec. 17	29
LA ROSA, AUGUSTO CABRERA		
Peru's Enormous Prospective Area Enhances Its Oil Reserves	Aug. 6	35
LAYTON, C. I.		
Repressuring Experiment in Bourbon County Kansas, is Interesting	Dec. 10	21
LEWIS, JAMES O.		
Advantages of Unitization in Repressuring	Feb. 19	19
Cleaning Out Oklahoma City Wells With Gas Pressure	Sept. 17	24
LEYENDECKER, CHARLES		
Splendora Wildcat May Open New Conroe Trend Field	Mar. 19	67
LINZ, BERTRAM F.		
Review Board Recommends Pipe Line Divorcement and Federal Control	June 18	9
Federal Approved Tenders to Be Required on East Texas Shipments	Oct. 22	9
LITTLE, HERMAN J.		
Care and Operation of Small Oil Wells East of the Mississippi	May 28	29
LOGAN, JACK		
Balanced Output and Increased Drilling Forecast for 1934	Jan. 29	12
Opposite Effects Tend to Equalize Federal Court Decisions	Feb. 19	9
The Code and the Courts	Feb. 26	7
"Hot" Oil Still Disturbing	Mar. 5	7
Today's Picture in Oil	Mar. 12	7
Oil and the Recovery Program	Mar. 19	7
The New Era for Oil	Mar. 26	16
Cayuga Gives Promise of Becoming Important Field	Mar. 26	50
The Week's Picture in Oil	April 2	7
The Week's Picture in Oil	April 9	7
The Week's Picture in Oil	April 16	9
The Week's Picture in Oil	April 23	7
Summing Up the Week	April 30	10
Oil and Government Control	May 7	9
Ickes Bill Dominates Oil Scene	May 14	9
Oil Reacts to General Conditions	June 18	16
Oil Bill Dead But Issue Still Alive	June 25	14
Ten New Fields Opened on Gulf Coast During Past 16 Months	July 16	65
Gulf Coast Oil Fields, Salt Domes and Prospects	July 16	67
Oil Investigations Multiply	July 23	7
The Next Five Months	July 30	6
The Outlook Favorable	Aug. 6	7
New Taxes vs. "Hot" Oil	Aug. 13	7
Ominous Weeks Ahead	Aug. 27	7
Bureaucracy Loses Ground	Sept. 3	7
Critical Fights in Congress Loom	Sept. 10	9
The Coming Shortage of Oil	Sept. 17	9
New Law Strongly Opposed	Sept. 24	9
East Texas, the Unruly	Oct. 1	7
East Texas Has a Birthday	Oct. 8	7
The Hot Oil Imbroglio	Oct. 22	11
Maneuvers on the Hot Oil Front	Oct. 29	6
LOGAN, JACK (Continued)		
Stability Appears only Temporary	Nov. 5	7
A Year of Profits	Nov. 12	11
Clashing Views on Federal Control	Nov. 19	7
Unusual Stability Prevails	Nov. 26	7
Outlook Moderately Promising	Dec. 3	7
Prospects Unusually Favorable	Dec. 10	7
Oil Control Becomes Stricter	Dec. 17	7
Earnings on Upward Trend	Dec. 24	9
Control Cause Gains Ground	Dec. 24	7
McANICH, E. C.		
Gauging Gas Well Capacities Accurately Without Waste of Gas	June 4	27
McCORKLE, I. B.		
Corrosion Fatigue and Protective Coatings	Jan. 1	16
McDONALD, EDWIN C.		
A Brief Accounting Note on Pensions for Oil Company Employees	Nov. 26	50
MacLACHLAN, A. D.		
Rotary Hose Care and Maintenance	Oct. 1	23
MARKHAM, BAIRD H.		
Industry Needs Relief from Burdensome Taxes	Dec. 31	10
MARPLE, ALBERT		
Unusual Shallow Oil Field	Oct. 8	30
MAY, CECIL J.		
Efficiency of Flowing Wells	Oct. 15	13
MICHELL, PRIMO DILLA		
Present Conditions and Outlook of the Mexican Petroleum Industry	Oct. 29	33
MILLS, BRAD		
Few California Wells Have Been Sensations Initially	Jan. 1	32
Conroe Wild Crater Well Under Control	Jan. 15	8
Texas Will See Increased Drilling in All Areas During 1934	Jan. 29	20
Mid-Continent Engineers Studying Future Problems at Oklahoma City	Feb. 19	14
Deep Sand Possibilities at Goose Creek Warrant Consideration	Mar. 5	57
Important Wildcatting Program Progressing in Northern Mexico	Mar. 19	14
Oklahoma City Operators Face Many and Varied Oil Litting Problems	Mar. 26	19
Engineering Study of Petroleum Problems of Increased Importance	April 23	36
Marshy Conditions at Lake Washington Require Unique Drilling Procedure	May 7	21
Geophysical Work Hindered by Geological Conditions in California	May 21	22
Barges That Submerge in Shallow Louisiana Lakes Solve Swamp Drilling Problem	June 11	22
Oil in Congress and on the Market	May 21	7
Long Lake Field Indicated to Be Important Gas Reserve	May 21	25
Code Case and Oil Bill in Limelight	May 28	6
Oil Outlook Generally Favorable	June 4	6
Oil Control Continues Effective	June 11	6
Efficiency and Safety Mark Clay Creek Field Operations	June 11	25
Oklahoma Installations Show Oil May Be Lifted by Pumping Methods	June 18	17
East Texas Field Shows Conservation Is Beneficial to Well Flowing Life	June 25	22
East Texas Field Operators Are Using Various Pumping Methods	July 2	19
Latest Type Methods and Equipment Used on Kettleman Hills Drilling Rigs	July 9	23
Higher Gravity Gulf Coast Crudes Found With Deeper Production	July 16	27
Scientific Research Needed to Solve Problem of Heaving Shale—Part I	July 16	43
Heaving Shale Involves Chemical and Mechanical Drilling Methods—Part II	July 23	18
Mechanics and Chemistry Involved in Heaving Shale Problems' Ultimate Solution—Part III	July 30	27
A Planned Program Among Others Is Important Factor in Deep Drilling	Aug. 6	32
Decline of Oil Exports Changes California's Marketing Conditions	Aug. 13	13
Controlled Directional Drilling Is Found to Have Practical Applications	Aug. 20	31
Kettleman Hills Is United States' Outstanding Example of Unit Operation	Aug. 27	31
Improved Methods and Equipment Meet Conditions Encountered in Deep Pumping	Sept. 3	20
Locating Water Sources in Oil Wells by Electrical Methods	Sept. 3	24
Bottom-Hole Chokes Overcome Producing Trouble in Gas Wells	Sept. 17	17
Swampy Terrain Difficult Barriers Overcome by Novel Drilling Methods	Sept. 24	20
Modified Gas-Lift Is Proving Successful in East Texas	Oct. 1	19
Three-Year Shut in of Depleted Shallow Wells Raises Fluid Level	Oct. 8	26
Drilling Conditions Are Exceedingly Difficult in the Buckeye Field	Oct. 22	27
Screen and Packer Practices in the Gulf Coast Show Advancement	Nov. 5	19
Drilling Progress Is Advanced by Definite Trend Toward Improved Muds	Nov. 26	22
High-Pressure Gas Is Handled by Special Reduction System	Dec. 3	33
Louisiana Coast's Easy Drilling Conditions Factor in Deep Play	Dec. 10	16
Crude Reserves Are Below Future Demand Requirements in California	Dec. 17	13

Authors Index—(Continued)

	Date	Page
MILLS, BRAD (Continued)		
Zwolle Has Been an Erratic But Remarkable Producing Area	Dec. 24	63
Spindletop Contributed Much in Equipment to Early Engineering	Dec. 31	30
MOORE, C. L.		
Reduction of Lifting Costs Through Close Inspection of Production and Equipment Records	June 4	20
MOORE, T. V.		
Application of the Principle of Volumetric Withdrawal to the Allocation of Production	Feb. 26	24
The Effect of Curtailment on Ultimate Recovery	Nov. 19	27
MOORE, WALDO W.		
Acid Treatment Proves Beneficial to North Louisiana Gas Wells	Oct. 29	31
MOORE, N. A.		
Piston Rings	Dec. 31	24
MORRIS, ALEXANDER B.		
Some Economic Aspects of Gas Solubility Investigations	Oct. 15	30
MORRIS, C. E.		
Northeast Kansas Pool Shows Value of Repressuring Shallow Property	Sept. 17	27
Back-Pressure Is Held on Northeast Kansas Wells When Repressuring	Oct. 1	22
Repressuring Without Channeling Is Obtainable With Control Method	Nov. 19	35
Back Pressure Proves Channeling Preventive During Repressuring	Dec. 31	28
NEWLON, J. H.		
Care and Operation of Small Gas Wells East of the Mississippi River	May 28	23
NIXON, S.		
Piston Rings	Dec. 31	24
OPPENHEIM, VICTOR		
Brazil Has No Proven Oil Fields But Possess Tremendous Shale Deposits	Sept. 17	32
POGUE, JOSEPH E.		
Balancing Supply and Demand in the Petroleum Industry	Feb. 26	43
POST, EARL S.		
Extensive Drilling in Sight for South Texas District	Jan. 29	22
Queer Drilling Rigs Are Used in Shallow South Texas Area	July 2	18
High Gas Ratio in Greta Field Reduced by Simple Control Method	July 9	17
Buckeye Unit Plan Overcomes Handicap of Townside Subdivision	July 23	25
Drilling Outfit of Unique Design Carries Its Own Portable Camp	Aug. 27	20
Southwest Texas Fields Have Varied Production Problems	Sept. 10	29
Southwest Texas Oil and Gas Fields and Prospects	Sept. 10	43
Pipe Line Bridge Is Built in Rapid Time at Low Cost	Sept. 17	31
Revised Pumping Methods Overcome Operating Problems and Increase Lease Efficiency	Oct. 22	31
Samfordyce, South Texas Latest Major Possibility, a New Type Field	Nov. 12	68
QUIROGA, OSCAR		
Peru's Enormous Prospective Area Enhances Its Oil Reserves	Aug. 6	35
REDECKER, SYDNEY B.		
Germany Envisages Motor Fuel Self Sufficiency	Dec. 17	31
REISLER, LEO J.		
Cuban Field Produces Refined Naphtha Gasoline	July 9	33
REISTLE, JR., C. E.		
East Texas Production	Feb. 26	14
Effect of Different Production Rates on Pressure Distribution in East Texas	Nov. 26	26
ROBINSON, SPENCER W.		
Value of Institute Work Reviewed; Directors Silent on Control Bill	May 28	8
ROWE, VANCE		
Unitization Proves Itself	July 30	19
SAWDON, WALLACE		
North Dome Results Show Benefits of Intelligent Regulation	July 2	24
SCHACK, WILLIAM		
Soviet Oil Enters New Intensive Phase	June 4	31
Soviets to Stress Drilling Research	June 25	34
Welding the Iraq Pipe Line	Oct. 22	35
SHAW, S. F.		
Should Prospecting for Additional Oil Reserve Be Curtailed?	Mar. 12	11
Producing Oil by Flowing Methods (Part I)	April 2	20
Producing Oil by Flowing Methods (Part II)	April 9	20
Air-Lifting Oil to Take Advantage of Existing Pressure in East Texas	July 9	19
Compressor Equipment Cost for Gas-Lifting in Mid-Continent Depends on Conditions	Oct. 8	21
Influence of Casing Sizes on the Production of Oil	Nov. 12	35
SCHILTHUIS, RALPH J.		
Variations in Reservoir Pressure in the East Texas Field	Oct. 15	24
SCHMIDT, ELMER F.		
Internal Corrosion of Natural Gas Pipe Lines	Oct. 29	25
SCHUETTE, KURT A.		
Increase in German Oil Production Through Government Program	Oct. 15	47
Methods Used for Lifting Oil in Germany	Nov. 26	35
SMITH, H. M.		
Experimental Data on Laboratory Oxidation of Crude Oils With Particular Reference to Air-Repressuring	June 25	15
SPELLER, F. N.		
Corrosion Fatigue and Protective Coatings	Jan. 1	16
STARK, H. S.		
Reduction of Lifting Costs Through Close Inspection of Production and Equipment Records	June 4	20
STEFANESCU, NIC N.		
Romania Oil Industry Keeps Pace With World Development	May 14	165
STEIDLE, EDWARD		
Some Basic Problems in the Conservation and Future Production of Pennsylvania Grade Crude Oil	June 18	22
STEPHENS, J. P.		
Reconditioning of Wells in The Oklahoma City Field	Feb. 19	21
STOVALL, E. E.		
Training and Functions of a Field Meter Man	June 11	31
STOVALL, SMITH L.		
Recovery of Oil from Depleted Sands by Means of Dry Steam.	Aug. 13	17
SUMAN, JOHN R.		
The Well Spacing Problem	May 28	43
SWIFT, FRANK W.		
Graphic Records of Drilling Time Have Many Valuable Features	March 12	14
Methods of Correcting When Directional Survey Reveals Crooked Drilled Hole	May 21	17
Drilling-By Job of Interest is Accomplished in Panhandle Lime	July 2	21
SWINDELL, FLOYD		
Changes Proposed in Depletion Clause of Income Tax Law.	Jan. 15	19
Oklahoma-Kansas Conditions Show Benefits of Federal Control.	Jan. 29	14
Pressure Determinations in Flowing Oil Wells	March 5	20
New Type Drive Pipe Effective in Overcoming Loose Surface Formations.	March 12	19
Binger Dome Showing Probable Important Oklahoma Deep Reserve.	March 26	10
Reconditioning Work Modernizes Old Stanolind Pipe Line System.	July 23	29
Human Element is the Cause of Most Automobile Accidents.	Aug. 27	28
Stripper Well Property is Made Profitable Through Operating Economies.	Sept. 3	23
Pipe Line Bridge Recently Built Featured by Construction Design.	Sept. 24	31
The Empire Companies Has Successful Employee Vocational Training School	Nov. 12	26
Stage Lifting Applied in Oklahoma City Field to Gas Lift Operations.	Dec. 17	19
TAYLOR, JR., F. B.		
Convenient Roll Type Map of Pipe Line Route Proves Advantageous.	April 2	25
Field Car for Testing Gas Incorporates Unusual Features.	Aug. 27	26
Maintenance and Testing to Eliminate Inaccurate Measurement of Orifice Meters.	Oct. 1	27
Correlating Comparison of Chart Interpretations	Dec. 10	35
TAYLOR, SAM S.		
Experimental Data on Laboratory Oxidation of Crude Oils With Particular Reference to Air-Repressuring	June 25	15
TRENCHARD, JACK		
Government Wells Producing Problems Are Overcome by Operating Practice.	June 11	16
TRIPLETT, GRADY		
Facts and the Figures.	Jan. 29	28
Looking Back 75 Years Only the Actors Change	Aug. 20	16
TROUT, E. P.		
Deep Well Pumping.	July 9	25
UMPLEBY, JOSEPH B.		
Efficient Utilization of Reservoir Energy	March 5	22
VANICK, J. S.		
Properties of Nickel Alloy Cast Irons and Their Special Applications in Petroleum Production Equipment.	May 28	32
VERSLUYS, JAN		
Energy Relationships in the Oil Bearing Formation.	Oct. 15	38
WARD, H. L.		
Drilling Against High Rock Pressure in the Khaur Field, Punjab, India.	Oct. 22	27
WATSON, MAX K.		
Calculation of Orific Coefficients.	Part I. June 18	29
	Part II. June 25	27
WECHTEL, G. H.		
Electrical Pumping Progress in Kansas and Oklahoma	Dec. 24	19
WHETSEL, R. V.		
World Production of Petroleum and Allied Products Above 1929 Figure.	Nov. 12	25
WHISENANT, J. BARNEY		
Government Wells Producing Problems Are Overcome by Operating Practice	June 11	16
WILDE, JR., H. D.		
An Allocation Formula.	March 12	20
WOOD, FRED E.		
Essential Engineering Factors in the Allocation of Production.	Feb. 12	11

Their CONFIDENCE *was Rewarded*

THE greatest load ever used on a Parkersburg Derrick without reinforcing . . . 10,301 feet of 7⅝ casing safely landed in 19 hours . . . Remarkable achievements, such as this, provide further proof of the FAULTLESS FABRICATION of PARKERSBURG DERRICKS.

* * *

IN drilling the McElroy 103 to the tremendous depth of 10,630 feet without serious mishap, the Gulf Production Company has given the oil world an outstanding example of planned efficiency. Here was no place for gambling with untried, unproved equipment. With no local precedent to guide them, the operators knew that every operation must be well planned and perfectly executed.

The selection of a Parkersburg 136-foot, heavy duty drilling derrick for this deep test is noteworthy. A tremendous investment was at stake —the safety of the drilling crews was to be considered—so, it was but natural that a Parkersburg Faultlessly Fabricated Derrick should be chosen for this difficult assignment.

To the Gulf Production Company and the well organized, highly efficient drilling crews we extend our heartiest congratulations.

Parkersburg 136-foot, heavy duty drilling derrick on Gulf Production Company's McElroy 103

The Parkersburg Hydromatic Brake used on the Drawworks of McElroy 103, proved to be a real investment in safety and economy. Its smooth, positive operation absorbed much of the shock that would otherwise have been transmitted to the drilling equipment and provided protection against runaway loads.

THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

THE PARKERSBURG RIG & REEL CO.

Executive Offices and Main Plant

PARKERSBURG, WEST VIRGINIA

NEW YORK - TULSA - DALLAS - HOUSTON

389-A

TIME IS MONEY

More and more oil executives, in discussing their plans for 1935 are realizing the importance of putting their complete well problems up to the NORVELL-WILDER MAN.

WHY . . . because they are assured of the substantial economies of getting equipment that works well with other equipment.

Save your valuable time by letting the NORVELL-WILDER MAN advise you on equipment which, when in operation, will save you more time and money because of the ensuing efficiencies.

CALL THE NORVELL-WILDER MAN NOW

NORVELL-WILDER QUALITY AND SERVICE SUPPLY CO.

Norvell-Wilder *Supply Company*